

2004

The Impact Of Direct Reading Instruction For Middle School Students At Newfield Middle School, Newfield, New York

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The Impact of Direct Reading Instruction for
Middle School Students at Newfield Middle School,
Newfield, New York

BY

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Submitted in Partial Fulfillment
Of the Requirements for the degree
Doctor of Education
College of Education and Human Services
Seton Hall University
South Orange, New Jersey

2004

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Abstract

The Impact of Direct Reading Instruction for Middle School Students at Newfield Middle School

The researcher investigated the impact of time in direct reading instruction (DRI) for middle school students ($n = 345$). The comparison group had only English language arts (ELA). The treatment group had ELA and time in DRI.

ANOVA was used to analyze time in DRI, gender, and special education on achievement following DRI on the New York State Intermediate English Assessment (NYSIELAA). There was a significant increase ($p \leq .05$) in special education scores. Effect sizes were large for special education student performance (2.79), and male performance (1.39). Female scores decreased after DRI ($- .48$).

A matched-pair t test showed a significant ($p \leq .001$) gain on the Degrees of Reading Power (DRP) test for treatment vs. comparison groups after 2 years of ELA and DRI.

Acknowledgements

To Charles Achilles, Ed.D.: May our paths frequently cross as I continue this journey. Thank you for the caring, watchful eye and supportive, unconditional commitment that you have given by facilitating the completion of this study.

To Charles Mitchel, Ed.D.: Thank you for being a role model in educational leadership. I hope that I may gain a sliver of your passion in all that I do.

To Craig Evans, Ed.D.: Your encouraging words and faithfulness to the cause have been a beacon to pilot my course. My gratitude for leading the way.

To Bill Hurley: Permaximum - Alea iacta est. Consummatum est. Gratia pluris.

To Mary Brenno: Words cannot express the appreciation for which I am grateful. You have contributed much to my professional growth and helped make it possible to wade through the depths of this study.

To the Newfield Central School Board of Education: You have been generous in allowing me this opportunity. May you be rewarded ten-fold.

To Cynthia Ewers, Ph.D.: Your principled direction and demand for rigor was the impetus for my work.

To John Collins, Ed.D.: Thank you for sharing your
gifts of patience and stats.

Dedication

It is to my wife, Joy, that I am indebted. For taking on the added responsibility, for the lonely weekends, for the cluttered counter. Despite the mess, the bills, and the principalship, you remained ever faithful to see this through. Now we will feel no rain for each of us are shelter to the other. I love you.

To my children Nicholas and Grace, I am proud of your accomplishments. It is my hope that we share in this together. Thanks for not giving up.

To Shakes and Rice, you're worth the trouble.

Last but not least, I thank my mother, Peggy. It is she whom I owe the life that has been given to me and for the person I have become. Her shining rays of unconditional love and her will to put others' needs before her own are admirable and treasured. Mom, I cherish all that you have given.

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Chapter I

The Problem

Introduction

Fielding, Kerr, and Rosier credited Graham Green in their work, *The 90% Reading Goal* (1998), with stating "there is always one moment in childhood when the door opens and lets the future in" (p.3). In his *Statement Before the Committee of Labor and Human Resources* (1998), G. Reid Lyon, Chief of the Child Development and Behavior Branch of the National Institute of Child Health and Human Development (NICHD), noted, "for about 40% of our children, the door opens fairly easily" (p.3). For another 30-40% of children, it requires significantly more effort. For the "remaining 20-30%, opening that door may be one of the most difficult tasks of their life" (p.3).

In his statement, Lyon (1998) argued that "learning to read is critical to a child's overall well-being. If a youngster does not learn to read in our literacy-driven society, hope for a fulfilling productive life diminishes" (p.14). Lyon heeded that illiteracy is not only an educational concern, but also one on a much more global scale for the entire public, calling it a "public health concern" (p. 14). With this in mind, it is imperative for

educators to focus on reading to prepare children to be productive citizens.

Because "reading is a crucial tool in the effort to build equity and excellence in society as a whole" (Jackson & Davis, 2000, p. 87), effective practices must be engaged to assist students in becoming efficient readers. "Reading is paramount and reading well by the third grade is essential. With few exceptions, seniors graduating with high achievements are those reading proficiently nine years earlier" (Fielding et al., p. 11). Anderson, Hiebert, Scott, and Wilkinson (1985, p. 1) remarked, "Without the ability to read, excellence in high school and beyond is unattainable."

Keeping in mind that the focus of reading instruction should be at the earliest levels of childhood education in schools, the next question might be, "What happens to those students whose "door" has not opened easily by grade 3?" "Children who fall behind in first grade have a one in eight chance of ever catching up to grade level without extraordinary efforts" (Juel, 1994, p. 120). "Seventy-four percent of children who are poor readers in the third grade remain poor readers in the ninth grade" (Francis, Shaywitz, Stuebing, Shaywitz, & Fletcher, 1996, p. 3). While this evidence remains, New York State (Core subjects, 2002)

among others, has engaged in standards-based reform and the implementation of high-stakes testing for students in Grades 4, 8, and at each level of high school. In 1998, the *Reading Excellence Act* initiated reform for reading instruction in public schools. It was quickly followed by the reauthorization of the Elementary and Secondary Education Act (ESEA), now known as the No Child Left Behind (NCLB) Act (NCLB, 2002). This Act ties reading instruction closely with accountability, through federal funding to schools that "use reading programs supported by scientific research" (NCLB, 2002). The International Reading Association has also issued a position statement on adolescent literacy emphasizing the looming concerns of middle school reading (Moore, Bean, Birdyshaw, & Rycik, 1999).

In addition to the political agendas that hang over the nation of presumably poor readers, Allington (2001) cautioned educators regarding the research-based notions of the *Reading Excellence Act*. He noted that the current research "has been narrowly interpreted and focused almost wholly on the very beginning stages of reading instruction" (p. 2). "Much of what might prove useful instructionally in first grade is being misapplied to older children and to children having difficulty" (p. 3).

If the research by Francis et al. (1996) is, in fact, that "seventy-four percent of children who are poor readers in the third grade remain poor readers in the ninth grade" (p.3), then what should middle-school educators do to match this reading gap with the demands of the State and Federal governments? Fielding et al. (1998) stated, "Seventy percent of those students who presently are not reading at grade level by the end of the third grade will never read at grade level" (p. 43). Should public school leaders, particularly middle-school principals, ignore those students? Fielding et al. (1998) made a bold claim with the use of "never" because students, parents, and educators are faced with assisting students in meeting increased demands for student performance (Core subjects, 2002). Davidson and Koppenhaver (1988, p. 74) observed, "During the middle grades, young adolescents face increasing demands on their literacy skills. Herber (1984) noted that students must make a significant shift from "learning to read" to "reading to learn"; a solution must be found.

"Reading is not often a focus of instruction in the middle grades, despite the statistics on the number of students who are poor readers" (Irvin, 1998, p. 230). "Thirty percent of young adolescents leave the primary grades without basic reading skills" (Showers, Joyce,

Scanlon, & Schnaubelt, 1998, p. 27). Much of the reading focus at the middle-school level has been in remedial programs, as confirmed by Hill (1975), as well as Greenlaw and Moore (1982). This practice continued in 2002 (USA Today, 2003, p. 10A). Our schools have become places where readers in trouble are assessed, sorted, and labeled . . .” (Allington, 1994, p.18). High quality classroom instruction, according to Cunningham and Allington (1994), is much more effective than such remedial programs. Teaching is a significant factor.

Prior to September 2001, direct reading instruction at Newfield Middle School (NMS) ended at Grade 5, consistent with Irvin and Connors’ (1989) contention. It is a typical perception that “children will learn to read in elementary school” (Jackson & Davis, 2000, p. 87). There is a stark contrast between this commonly held misperception and the actual reading abilities of middle level students. Vacca (1998) remarked that the United States Department of Education supported research focusing on early literacy up to Grade 3 (p. 605). Campbell, Donahue, Reese, and Phillips (1996) stated that about 60% of United States children and adolescents are capable of reading at a basic level of performance, but fewer than 5% can use advanced reading skills, as students are required

to do on the New York State Intermediate English Language Arts Assessment (NYSIELAA) (New York State Education Department, July 2002). A focus must be maintained on the improvement of early literacy instruction and on efforts to address the reading needs of students in the stages of adolescence.

Statement of the Problem

There are 27 million illiterate adults in America. An additional 47 million are considered functionally illiterate . . . Illiteracy is a word we usually apply to adults, but the problem begins earlier. By early adolescence the future illiterates and functional illiterates of the adult statistics have already begun to diverge from the mainstream. They are the 13-year-olds who cannot read . . . they have lost all hope that they will be able to learn (Davidson & Koppenhaver, 1988, p.3).

This opening to *Adolescent Literacy: What Works and Why*, provides a backdrop for this serious, high priority and high risk problem (Achilles, Reynolds, & Achilles, 1997, p. 66). This study will "help school personnel solve problems" (Farr, Weintraub, & Tone, 1976, p. 10) of not only specific student performance results, but also address

the notion that the need for higher levels of literacy is growing as a result of changes in workplace demands (Gambrell, Morrow, Neuman, & Pressley, 1999, p. 11).

The aggregate results of the NYSIELAA for students at NMS showed that 46%, 50%, and 61% performed at level three (proficient) or above for the years 1998-1999, 1999-2000, and 2000-2001, respectively. The New York State Regents' goal is that 90% of students will achieve at level three or above. Therefore, 54%, 50%, and 39% of the Grade 8 students at NMS performed below the State reference point of 90% for the years 1998-1999, 1999-2000, and 2000-2001, respectively, thereby indicating a gap.

Because of student performance results, as indicated, both instructional and curricular issues arise. Prior to September 2001, direct reading instruction, whereby the teacher provides skill development and practice within the context of a reading class period (Leu & Kinzer, 1991, p. 78), was not a part of middle-level instruction at NMS. Students did receive a reading class in Grade 6, however it was purely reading the pages of trade books, without connection to specific skills. In Grades 7 and 8, attention was given to literary elements, disregarding developmentally appropriate reading instruction. Cooney (1999, p. 6) commented, "middle grades teachers typically

are not prepared to teach reading." In fact, "many middle and high school teachers think of themselves as content experts" (D'Arcangelo, 2002, p. 12).

Purpose of the Study

The purpose of this study was to investigate the impact of time in direct reading instruction (DRI) for Newfield Middle School students by assessing their overall reading achievement following participation in a direct reading instruction class. Reading instruction is defined as the amount of time that all middle school students receive direct instruction for specific reading skills in addition to an English Language Arts (ELA) class. Students' overall reading ability was measured by the DRP test. Students received direct reading instruction in homogeneous groups, dependent on the DRP outcome. Instruction was determined by the specific, individual needs of students and was executed by certified middle-school teachers.

In this study, the researcher investigated the impact of reading instruction (provision of direct instruction versus no direct instruction), the independent variable, and student performance, the dependent variable, as measured by the Degrees of Reading Power (DRP) test (Touchstone Applied Science Associates, 2000) and on the

NYSIELAA for the population of middle-school students at NMS, Newfield, New York. Comparisons were made between groups, or classes, of students who attended NMS but did not receive any direct reading instruction at the middle level (they only received exposure to literary elements without regard to reading ability), the comparison group, and groups, or classes, of students who attended NMS and received direct reading instruction with regard to reading ability, the treatment group. District permission was obtained prior to the execution of the study (Appendix B).

Research Question

How did the provision of direct reading instruction (DRI) to middle school students influence their achievement level on two tests: the NYSIELAA and the DRP test?

Subsidiary Questions

1. How did the provision of DRI at the middle level impact student performance on the NYSIELAA by gender?
2. How did the provision of DRI at the middle level impact student performance on the NYSIELAA by receiving special education services as stipulated by an Individualized Education Program (IEP)?
3. How did the provision of DRI at the middle level impact student performance on the DRP test?

District Context

The study population consisted of all middle-school students at NMS who were required to take the NYSEELAA. The student population (*N*) was determined by Grade 8 enrollment for the years ending 1999, 2000, 2001, 2002, and 2003 and averaged 345. The Newfield Central School District is located in a rural bedroom community in Tompkins County, New York, the smallest district within the Tompkins-Seneca-Tioga Board of Cooperative Educational Services (BOCES). The District serves a student population of just fewer than 1000 students, from pre-kindergarten through Grade 12. The district includes one elementary school, one middle school, and one high school.

The community-at-large, struggles with many characteristics driven by poverty and other social problems, a significant factor connected to concerns of illiteracy (Davidson & Koppenhaver, 1988, p. 5). Poverty and population density in the trailer parks have contributed to several serious instances of criminal conduct, some of which resulted in death (murder). Stress from lack of financial resources tends to contribute to difficult family dynamics, with many children living in single parent or combined family homes. Children's safety is carefully monitored by the school personnel, and

interventions are made as required. Many adults who remain in the community have low levels of education and lack resources with which to assist their children with academic or social skills. As indicated in the New York State School Report Card (New York State Education Department, 2002), Newfield Central School District has been categorized as a "rural district with high student needs in relation to district resource capacity".

The study included two groups. The comparison group was operationalized as all classes of students who did not participate in direct reading instruction at Newfield Middle School. This group included all students enrolled in grade eight at NMS for the years ending 1999-2001. These classes of students participated in ELA instruction that focused on literary elements, without regard to phonemic awareness, decoding, fluency, comprehension, or higher order thinking skills (Honig, 1997). The treatment group was operationally defined as all classes of students who participated in direct reading instruction at Newfield Middle School. These students had multiple levels of reading ability, from beginning readers to master readers. Each student in the treatment population received a maximum of 4000 minutes of direct reading instruction during middle

school. This group included students enrolled in Grades 7 and 8 at NMS for the years ending 2002 and 2003.

The groupings were established by using a published database by the Central New York Regional Information Center (CNYRIC), in cooperation with the New York State Department of Education. Because students were grouped according to a daily schedule and impacted by the instruction of the teacher, the groups were further refined to consist of student groupings or classes. The comparison group ($n = 210$) was made up of student classes by scheduled time for ELA. The treatment group ($n = 135$) was made up of student classes by scheduled time for direct reading instruction (DRI) in addition to ELA instruction.

Data were sought to describe the impact of reading instruction, gender, and special education, the independent variables, and student achievement, the dependent variable. Data were derived from student test results on DRP and NYSIELAA, as reported on the CNYRIC database. The database provided test score information anonymously by use of a query to recall specified information according to subgroups, in this case, years 1999-2003, student scheduling groups for ELA, and student scheduling groups for DRI. The data described the test performance of

students on the DRP and NYSIELAA, as a result of the treatment, DRI. For the comparison group, the student test scores were arranged by subgroups of scheduled classes for ELA instruction, gender, and special education. Subgroups of scheduled classes for direct reading instruction, gender, and special education were used for the treatment group. The mean DRP score and the mean NYSIELAA score were reported by group. Means were compared for the comparison group and the treatment group with regard to performance on the DRP, as well as on the NYSIELAA. Because there were multiple groups, Analysis of Variance (ANOVA) was used to test the statistical significance of the contribution of direct reading instruction to student achievement on the DRP and NYSIELAA, as well as to analyze the effects by gender and special education. The mean gain scores were analyzed by contrasting the means of the comparison group and the treatment group on the DRP results, the test result that was common across all years in the study.

Significance of the Study

The present study contributed to current emphasis on adolescent reading, specifically in terms of the provision for direct reading instruction in middle schools. The findings can assist middle-school principals (Ivey & Broaddus, 2000, p. 76), who must be successful classroom

teachers (Davidson & Koppenhaver, 1988, p. 192), and other instructional and curricular leaders, in balancing the need to meet the mandates of the standards-based reform movement. Results should also assist teachers in helping students to become functional in a literacy-based society, not to mention, "pass the tests". School leaders must concentrate on these reading efforts as opposed to scheduling functions (p. 13), or office "stuff" (Potter, 1994, p. 244). While emphasis has been placed on interdisciplinary and integrated instruction in middle level schools (Jackson & Davis, 2000), the best practices for assisting adolescent readers, particularly those who are struggling, have yet to be delineated. The author, as a middle-school principal, must have a sense of vision for middle-school reading and share it with staff members (Potter, 1994, p. 243), including them in the development of reading, instructional coursework. The principal's instructional leadership "plays an important role in school effectiveness" (Hallinger, Bickman, & Davis, 1996, p. 544).

Allen (2000) quoted from Postman and Weingartner (1969) to note the significance of reading literacy from a one-size-fits-all approach to allowing teachers to work with groups of students, for direct instruction, using

their intuition to answer the question "what is really worth teaching" (p. 7).

Suppose all the syllabi and curricula and textbooks in the schools disappeared. Suppose all the standardized tests . . . were lost. In other words, suppose that the most common materials impeding innovation in the schools simply did not exist. Then suppose that you decided to turn this "catastrophe" into an opportunity to increase the relevance of the schools. What would you do? (Postman & Weingartner, in Allen, 2000, p. 7)

This study served to answer the question, "does simply providing the opportunity for teachers to determine what is worth teaching in a direct instruction reading setting have an impact?" Gambrell and Mazzoni (In Gambrell, et al., 1999) contended that "Optimal assessment and instruction can only be achieved when skillful, knowledgeable, and dedicated teachers are given the freedom and latitude to use their professional judgment to make instructional decisions that enable each child to achieve their literacy potential" (p. 13). Vygotsky (2002) noted that optimal learning occurs when teachers determine children's current level of understanding.

Limitations

Limitations are inherent in all educational research. For this study, such boundaries included (a) restrictions in generalizability and external validity, (b) variations in teacher training, (c) a defined population for the treatment groups, (d) excluding the possibility for randomization, (e) validity and reliability of the NYSIELAA, (f) no measurement of time on task, (g) no control for the maturation effect on the DRP scores as a result of ELA class, and (h) due to confidentiality, student participants could not be matched to their status with regard to free or reduced-price lunch. While these limited the results of the study, it was the author's contention that providing the opportunity for direct reading instruction is better than no reading instruction at all.

Delimitations

The researcher focused only on the student population at Newfield Middle School, Grades 6, 7, and 8. The heart of the study was on two formats of class instruction with regard to reading: (a) ELA class and (b) direct reading instruction (DRI) class. The DRI classes were based on the notion that there is no "step-by-step, programmed approach for literacy instruction" (Bond & Dykstra, 1967; Pressley,

1994; Stahl, McKenna, & Pagnucco, 1994). The DRI classes required an extended school day.

Cooley (1993) indicated that schools that enroll large numbers of children from poor families ranked among the lowest performing schools. This study did not intend to focus on the relationship of poverty to student performance, although Newfield is a high-needs, rural district (School Report Card, 2002). Snow, Burns, and Griffin (1998) noted that early school achievement, especially in reading and writing, is a reliable predictor of later school achievement. This study did not examine the elementary school practices that may have led to student performance at the middle school.

Recognition must also be given to the implications of the Matthew Effect on reading class groupings. "Children placed in high groups received more and better instruction than children in low groups," (Allington & Cunningham, 2002, p. 11) dubbed the Matthew Effect after the Gospel of Matthew passage about the rich getting richer and the poor getting poorer (Stanovich, 2000). Specific measurement was not made of the amount of opportunity to read by class, the amount of attention to specific reading skills, or the time spent on student interactions. The focal point was on overall time, in a given classroom grouping, devoted to ELA

as a whole or DRI for a class grouping, in addition to ELA instruction for all students.

Definition of Terms

Academic Intervention Services (AIS). Programs that school districts in New York State are required to provide "to assist students who are at risk of not achieving the learning standards in English language arts, mathematics, social studies and/or science, or who are at risk of not gaining the knowledge and skills needed to meet or exceed designated performance levels on state assessments" (School Law, 2002).

Achievement group. A group that children are placed in based on an estimate of reading achievement (Allington & Cunningham, 2002, p. 11).

Adolescence. The period in life when humans experience rapid physical, emotional, and cognitive changes (Jackson & Davis, 2000, p. ix).

Average class-size. The sum of all students regularly in each teacher's class divided by the actual number of regular teachers in those specific classes (Achilles, 2003).

Class. A unit of students assigned to a teacher for purposes of English language arts or reading instruction.

Comprehension. The ability of the reader to use prior knowledge to gain meaning from the text (Wepner, Feeley, & Strickland, 1989, p. 80).

Content reading. A term applied to helping all students comprehend and apply the materials they are required to read in their school subjects (Wepner et al., 1989). It is typically administered in the regular classroom by the content-area teacher (Herber, 1978).

Critical literacy. Higher order thinking accompanied with the belief that "literacy empowers people when it encourages them to challenge the world" (Moje, Young, Readence, & Moore, 2000, p. 407).

Degrees of Reading Power (DRP). A test that assesses student ability to comprehend the surface meaning of prose (Touchstone Applied Science Associates TASA, 2000, p. 1).

Direct instruction. Teaching activities where goals are clear to students, time is allocated for instruction, the performance of students is monitored, and feedback to students is immediate. "The teacher controls instructional goals, chooses materials appropriate for the students ability, and paces the instructional episode". (Rosenshine, In Darling-Hammond & Snyder, 1992, p.65).

Direct Instruction (DI). "A specific instructional approach designed by Engelmann. Commercial materials are

available for utilization of this approach. The purpose of this study is not to examine DI (Engelmann, Becker, Carnine, & Gersten, 1988), rather direct (reading) instruction (Rosenshine, 1979, 1986).

English language arts. Class instruction that focuses on literary elements, without regard to phonemic awareness, decoding, fluency, or higher order thinking skills (Honig, 1997).

Level of proficient performance. A level at which students' reading abilities allow them to perform at level three or four on the New York State Intermediate English Language Arts Assessment.

Literacy. "Developing or emerging, from less mature to more mature forms of reading" (Harris & Sipay, 1990).

Middle-level schools. A school with grade configurations that include students entering adolescence providing a transition from elementary school to high school (New York State's Agenda, 2001).

New York State Intermediate English Language Arts Assessment (NYSIELAA). A test given to students to assess their understanding of reading, writing, and listening as aligned with the New York State Learning Standards for English Language Arts, K-8.

Reading. "A process in which the reader and print interact" (Leu & Kinzer, 1991, p. 10).

Remedial reading. A setting in which students who have not learned to read are segregated (Moje, et al., 2000, p. 401).

Secondary school. A school building housing Grades 7-12.

Organization of Study

Chapter 1 has presented an overview of the problem related to students and reading instruction once they leave elementary school. Keeping in mind that the focus of reading instruction should be at the earliest levels of education, New York State, in its standards-based reform efforts, increased the demands for student performance (New York State Education Department, August 2002). A focus must be considered for the reading needs of students in the stages of early adolescence, as well.

The purpose of this study was to investigate the impact of time in direct reading instruction (DRI) for students at Newfield Middle School by assessing their overall reading achievement following direct reading instruction. Because the literature in the field of middle level reading was relatively limited (Jackson & Davis, 2000) attention to middle level reading initiatives was warranted.

Chapter 2 consists of a review of the related research and literature regarding adolescent literacy, specifically direct reading instruction. The review provides a context for the problem of proficiency in middle-school readers, as well as the current lack of research in this area.

Chapter 3, in concert with chapter 1, explains the methods and procedures for this study. Data collection occurred via the CNYRIC database and the New York State Department of Education.

Chapter 4 presents the data and results of the statistical analyses of these data. Chapter 5 presents a summary and the implications for this research on educational policy and practice, and the general knowledge base. Conclusions are drawn regarding the research question: How does the provision of direct reading instruction to middle school students influence their achievement level? The study also offers suggestions for future research.

Chapter II

Review of Related Research and Literature

This review of related research and literature encompasses studies from 1965 to 2003. Specific studies discussing research regarding reading at the middle-school level span the years 1982 to 2001. The focus is on specificity and frequency of reading coursework relative to time within the structure of a typical school day schedule. The literature for this review was obtained by accessing the ERIC, PsychLit, and the Academic Search Premier databases at the Walsh Library located on the campus of Seton Hall University, South Orange, New Jersey, as well as the personal homepage of Dr. John Collins, at <http://pirate.shu.edu/~collinsjo>. Journal searches were completed at Syracuse University, Syracuse, New York and Cornell University, Ithaca, New York. Reading, middle school, literacy, adolescent literacy, adolescent reading, direct reading, middle level, and research in reading were the successful descriptors. Each article chosen was based on its relevance to the topic and taken into consideration due to the limited research available on the topic. Use of the reference section in publications provided further studies of relevance to the topic.

Overview

Irvin (1997) commented that "little research on middle level literacy practices and programs exists" (p.4) and what little exists encompasses secondary school reading. Hill (1971) reviewed 25 surveys of secondary reading activity published between 1942 and 1970 and found that most reading instruction in secondary schools took place in a remedial reading setting. Witte and Otto (1981) pointed out that surveys of reading activity prior to 1970, such as those used by Hill, were poorly designed and may not have provided an accurate picture of reading in secondary schools as a result.

Freed (1972) conducted a similar survey but identified that 55% of junior high schools had required reading courses. It was unclear, however, what types of courses they were. Irvin (1997) questioned whether they were schools that provided (a) no systematic instruction, (b) remedial reading, (c) developmental reading, (d) content area reading, (e) integrated language arts, or (f) thematic curriculum integration approaches. In 1975, Hill followed up his original study with schools in western New York. He found that the majority of schools in this region offering reading courses weighed heavily in corrective classes, remedial classes, and developmental classes.

To follow up with the lack of research in the field of adolescent reading, Farnan (1996) searched ERIC documents and found that "from 1980 to 1983, ERIC listed 29 such articles . . . from 1984 to 1989, 37; and from 1990 to fall 1994, (p. 104)." These documents contained a broad range of literacy topics. While this search demonstrated that the concern for adolescent literacy in the field of research is growing, it noted the limited sources available. In taking this point one step further, "with the September 1995 issue, the name of the *Journal of Reading* was changed to the *Journal of Adolescent and Adult Literacy*" (Moje, et al., p. 402). Moje et al. cautioned against drawing conclusions for adolescent literacy based on early literacy practices.

Early reading researchers (e.g. Balow, 1965; Bond & Tinker, 1973; Early, 1970; Herman, 1969) found that unless reading skills that are taught in the lower grades are reinforced in middle and senior high school, reading skills of the weaker reader will not increase, and may deteriorate. Most elementary children are not taught the more complex reading skills that must be acquired in middle and high schools following the attainment of the foundational skills. Cooper and Petrosky (1976) noted that prior to their research it had been popular to recommend

that every early adolescent be provided with specialized reading instruction. Herbert (1978) noted that students moving from elementary to middle schools must make a significant shift from learning to read, to reading to learn.

Karlin (1984) suggested that every teacher should be a teacher of reading, yet Early and Sawyer (1984) noted that the reality of the response to reading needs in junior high schools was to incorporate reading into English classes. Gunning's (1992) research indicated, "no one approach to teaching reading yields consistently superior results. A combination is probably best" (p. 391). Becker (1990) noted that many middle-grade students come to their English classes severely below grade level in reading and could clearly profit from extra academic time devoted to instruction and practice in reading" (p. 451). The article suggested that 61% of middle-grade schools provided a reading course separate from English. This, however, was followed by the term "estimate", eliciting caution for the reader. On the contrary, Vacca and Vacca (2002) noted, "After 7th grade, few schools provide comprehensive literacy programs for the majority of students who have learned to decode words easily and read smoothly in elementary school" (p. 9). The literature on the prevalence of direct reading

instruction in middle schools was slim and did not provide consistent findings.

Kibby (1995) looked at the myths and realities related to student literacy as related to NAEP (1990) results. He noted, "Only 2% of 1990 17-year-olds scored in NAEP's two lowest literacy levels" (p. 17). Literacy was not the problem. Kibbey suggested that the issue is literacy instruction and that reading must move beyond simplistic aspects of reading, and push students to be far more critical. Allington, in Wilhelm, Baker, and Dube (2001) expressed that "American students in the earliest grades rank second in the world in reading, but fall to the middle of the pack by the end of middle school" (p. 39). Allington offered possible explanations including, "students are actively taught to read in elementary school and then are expected to read without further support in middle school" and "reading is seen as the ability to decode words," (p. 39) rather than taking students beyond the phonetic level of reading. Tovani (2000) suggested that "reading requirements increase dramatically for adolescents" (p. 20) with regard to expectations that teachers have about the reading abilities of middle-school students. Do students simply quit reading and watch

television (Finn, 1980) or get involved in non-reading activities on line, such as games or e-mail instead?

The release of the National Reading Panel's (NRP) Teaching Children to Read (2001) report turned the emphasis in reading to phonics instruction. While the report focused on early reading practices, and not adolescent instruction, it is significant to note the brewing discussion that took place as a result. The critique in publications was critical to the research practices in reading because of the call in the No Child Left Behind Act (NCLB) and in the Reading Excellence Act of 1999 for scientifically based research (SBR). A litany of publications (e.g. Coles, 2004, Ehri & Stahl, 2001; Garan, 2001; Krashen, 2001; Stone, 2001; Strauss, 2001) rejected much of the single-focus research reported by the NRP authors and cautioned against the implications of this publication. Strauss (2003) indicated that the NRP "is nothing short of scandalous" (p. 438). Evidence was falsified from the full report to the summary, and its bias was questioned with regard to the public relations firm for NRP, which is McGraw-Hill, as well as the "agenda of the Business Roundtable, which was among the nation's strongest and most influential advocates of high-stakes testing and accountability" (p. 442).

Of concern for this study was that McGraw-Hill was also the publisher for the New York State Assessment program. Smith and Ruhl-Smith (2003) indicated that "the line between corporate desire and governmental leadership has, on the topic of education, recently become so blurred, it is impossible to determine what entity is truly driving the other" (p. 23). Metcalf (In Smith & Ruhl-Smith, 2003) explained the details of the blurriness between the Bush Administration and employees of McGraw-Hill from the company's CEO, to the Education Secretary and the U.S. ambassador to the United Nations. Strauss (2001) noted "the NICHD's reading research program is politically useful . . . in the construction of high stakes testing and accountability in the service of U.S. corporate competitiveness" (p. 32).

Recognition of the "battle," with regard to research protocol, was critical at a time when concerns for adolescent reading are emerging in the literature. The International Reading Association's (IRA) adolescent literacy statement made this point (Moore et al., 1999). Effective teaching research indicated the positive implications for providing individualized instruction to students as well (Allington, 2002; Langer, 2001; Nystrand, 1997; Taylor, Pearson, Clark, & Walpole, 2000). Donahue,

Voekl, Campbell, and Mazzeo (1999) indicated that significant numbers of students in middle grades cross reading achievement levels, from the poorest of readers to master readers. Adolescents are also becoming resistant to reading (McKenna, Kear, & Ellsworth, 1995) and are replacing it with television, video games, and internet surfing.

The National Reading Panel fueled concerns of the use of scientifically based research (SBR). Strauss (2001) noted the narrow use of SBR studies and omission of valid and reliable studies related to literacy and class-size, noting only that illiteracy "can be overcome" (p. 26) solely with phonic instruction. Lyon (1997) claimed, "written spellings systematically represent the phonemes of spoken words" (p. 2). Strauss (2001) was adamant that this panel is clearly misguided about the "thousands of exceptions" (p. 27) to the English language.

The concept of individualized instruction is strongly supported by SBR on class-size specifically in the STAR experiment (Word, et al., 1990) and its legacy studies. Achilles provided a table showing a sample of related class-size studies (1999, p. 7). Small class-sizes allow teachers to provide individual accommodations, provide early diagnosis and remediation of learning difficulties,

teach to mastery, provide immediate reinforcement, and conduct running records as a method of assessment. In addition, students are provided with opportunities for self-reflection on their progress, to master basic skills, and given personal attention. Students are provided with immediate feedback with regard to their performance. A sense of community exists in a smaller class to benefit learning outcomes (Finn, Pannozzo, & Achilles, 2002, p. 17). This model exists in the successful Reading Recovery early intervention program where follow-up studies showed that participating "children continue to read at an average level or better after receiving the intervention, reducing the need for long-term remediation" (Swartz, 1996).

Broadus and Ivey (2002) pointed to three principles about how teachers can support all types of readers in middle grades. These include knowing students as readers, having multiple materials, and giving time to prioritize reading. These were noted as positive outcomes of the scientifically based small class-size research, summarized by Finn, et al. (2002). In smaller classes, students become "more engaged in learning and pro-social" (p. 18) behaviors, students influence their peers, and all students are visible as individuals providing a sense of belonging to the classroom community (p. 18).

Alvermann (2000) noted, "by far, the bulk of the research . . . in the middle grades" (p. 3) was targeted for at-risk students. The research that has been done has focused on remedial reading, pull-out programs, and university reading clinics (Alvermann & Moore, 1991; Bean, 2000; Morris, Ervin, & Conrad, 1996; Moore, 1996; O'Brien, 1998). Research for entire student populations of middle-level students was sparse. Alvermann (2001), in an executive summary, indicated the need for developmental reading for adolescents who are struggling readers. The missing link in research was instruction for all adolescent readers.

Sustained Silent Reading (SSR) (Marshall, 2002) has been used in classrooms for students of many ages. Its legitimacy, however, can be questioned in terms of direct reading instruction. Allen (2000) noted that the focus of SSR is to "lead to engaged readers who demand independent reading time in school and choose to read outside school hours" (p. 101). Indeed, SSR is not usually considered a methodology for providing direct reading instruction. Marshall (2002) even questioned the legitimacy of SSR in middle school without adding components of sustained silent writing and read aloud to SSR. While this presented an instructional issue in the implementation of a direct

reading program, it did not contribute to the original gap, because teachers were not, in fact, typically engaging students in direct reading instruction. With a broad range of reading abilities at the middle school, a curricular issue arises with providing reading instruction to this varying range of readers; this issue must be addressed.

The review of related research now turns to the evolution of adolescent direct reading research and is organized into two subheadings: (a) Specific reading-related coursework in secondary school, and (b) Reading for all students in secondary school. Following the two subheadings is a discussion of the case for the present study based on related literature and research.

Specific Reading-Related Coursework

In cooperation with the IRA, Greenlaw and Moore (1982) conducted a survey to assess to what degree students were being instructed in reading at the secondary level. The researchers used a commercialized computer mailing list to select participants randomly as well as an advertisement to solicit volunteer participants. Of the 251 schools selected to participate, only 61 actually responded to the survey. The small return rate (24%) diminished the survey's validity for scientific purposes.

The survey asked four questions related to reading courses that were taught at the school and whether the course was a part of the standard curriculum. Respondents at 77% of the participating schools said that reading was taught as a separate course and not integrated into the content areas. However, 72% stated that reading was a part of English coursework, seemingly a contradiction of the earlier responses, and 74% of this group indicated that the separate coursework was remedial in nature. Although not reported in the results, Greenlaw and Moore implied that reading coursework was offered across Grades 6-12 and that the most frequent type of coursework was developmental or remedial.

Irvin and Connors (1989) investigated current practices in middle school reading instruction, specifically Grades 6, 7, and 8. The sample included schools recognized by the United States Department of Education and a random sample of schools that considered themselves as middle level. Questionnaires, asking participants to respond to types of reading instruction, were sent to the selected schools. After the researchers followed up with one letter and several phone calls, the response rate for recognized schools was 83%, and 57% in the random group.

Results showed no significant impact of schools that had reading teachers and particular reading practices; 57% of recognized schools and 64% of randomly selected schools responded that their school offered developmental reading courses. The requirement that all students take this developmental course varied by grade level: recognized-86% (6th), 58% (7th), 48% (8th) grade; randomly selected-69% (6th), 53% (7th), 51% (8th), consistent with the findings of Becker (1990), that a majority of students were required to take a specific reading course, which was the sole responsibility of a reading teacher. The research of Irvin and Connors (1989) indicated that these required courses occurred more often at grade 6, than at grades 7 and 8. Of recognized schools, 67% indicated that remedial programs were offered for struggling readers, as did 70% in the randomly selected schools. Offerings of content-area reading courses were minimal. Irvin and Connors reported no data related to student outcomes.

The results suggested that most middle-school educators required students, at least in Grade 6, to take a separate reading course, and to participate in remedial coursework in addition, and that in middle schools offering specific reading courses, a reading specialist provided the instruction. These findings have implications for

districts struggling with fiscal resources, often because reading teachers are not mandated. Also, as Irvin and Connors (1989) indicated, middle-school students were faced with departmentalization and changes in text reading. Are content-area teachers expected to provide the instruction or are the reading specialists? Further research may indicate an additional alternative.

As part of research at Johns Hopkins University Center for Research on Elementary and Middle School, Becker (1990) found results different from those of Greenlaw and Moore (1982), related to the type of coursework offered to students specifically in middle school. This study focused on principal responses to the type of coursework offered in schools and the "proportion of students actually taking these courses" (p.450).

Becker did not indicate the size of the sample of principals involved in the study. The targeted middle schools consisted of many grade configurations, but all contained Grades 7 and 8. This study also did not indicate the method used for disseminating or gathering the surveys, thereby giving little credibility to the research and confidence in the results.

Of the principals who responded, 85% said that they provided a course that was separate from English; 61% also

indicated that this separate reading course was taken by "all or nearly all" students. Some confusion arose when the author added that the results estimated that between 55% and 60% of middle school students had a separate reading course. Implications from this research were lean. While it seemed as though the research suggested that a majority of middle school students have a separate reading course, the lack of methodological framework cannot support it. Further research is warranted to verify these results.

"Although students demonstrate gains in reading during early years, these gains seem to taper off in the middle and upper grades" (Chall, 1983). In relation to this notion, Paul (1996) examined reading performance of 659,214 students in grades K-12, specifically to examine the effects of literature-based reading. A portion of the findings, however, related directly to the structure and time that students were engaged in reading practice by grade.

Paul (1996) indicated the difficulty of measuring reading practice, particularly on such a large scale. Research was conducted using a computerized reading management program. Because the sample size was so large, "the statistical margin of error" was greatly reduced. The potential for outliers to skew results also subsided.

Paul found that by the sixth grade, reading practice began to decline. The author overtly noted, however, that only reading practice logged by the computer was considered. Any outside reading was not a part of the collected data. Results showed a large discrepancy between time involved in reading practice for lower and higher ability readers at various grade levels. At Grade 5, there was a 336% difference, at Grade 6, 352%, and at Grades 7 through 9, 412%.

Paul's research showed a de-emphasis on reading at the middle-school level and beyond. Middle-school principals, superintendents, and Boards of Education must recognize this trend and begin to provide support, politically and financially, to assist students to become literate (including comprehension) in a dynamic society. Perhaps too little time is allocated to reading in formal schooling.

Reading for All Students

Bintz (1993) studied four high schools, consisting of Grades 6-12 to follow readers as they transitioned from grade to grade. Schools were selected from varying demographic and geographic areas, as well as on standardized test performance. The 44 randomly selected students generated a small sample.

Data were collected using various measures, including interviews with parents, teachers, and the student participants. The focus was on "student in-school and out-of-school reading experiences" (p. 607). Interviews were transcribed and edited for confirmation by the participants. Each member of the research team followed varying procedures for analyzing the results, thus requiring care in interpreting the results.

The results, specific to this literature review, indicated that reading during the middle-school years is a complex problem. Unique concerns arose for every individual child. Blintz questioned his method for analyzing reading courses at the secondary level. He indicated that looking at students would not solve the problem. He implied that reading instruction is more than the basic foundational skills and that, to understand the complexities, middle-school structure, teacher practices, labeling, and building on individual student's strengths are places to begin.

Showers, et al. (1998) began the argument for their study with a concern for students entering middle and high school who have just mastered the very basics of reading. The authors examined a specific reading course of study for struggling readers, to target this perceived problem. The

study was conducted at one large and diversely populated high school.

Three hundred of the 900 entering ninth and tenth graders were notified that they would be required to take a reading course, in lieu of an elective. Showers et al. (1998) did not indicate in the study the method used for selection of these students. The course was designed like an elementary language arts curriculum. Prior to students engaging in the curriculum they were given the pre-ASAT (Abbreviated Stanford Achievement Test). Through the study, students engaged in intensive reading that focused on students' needs and the world around them. After one semester, students were given a post-ASAT. Results of this first study showed a growth of one grade level, on average, with the mean difference being significant at the $p \leq .0001$ level determined after the calculations from a dependent samples t test. This study, however, failed to have a control group and the large n contributed to statistical significance of a small actual difference in scores. Showers et al. did not report gains of those students who were not participants in the study.

The study was carried out a second time during the next semester of the school year. Thirty-two of the students from the first semester reenrolled along with 90

new registrants. The researchers did not note the selection process. The Gates McGinitie Reading Test was used for the second study. The mean gain score of the second semester was 1.32 years ($p \leq .00001$). The findings suggested that intensive reading instruction benefited struggling high school readers. Struggling adolescent readers "can learn to read" (p. 30). These findings suggested that more schools need to offer direct reading instruction to adolescents who are struggling readers. Gains made by students who did not participate in the study were not reported, thereby excluding any differences between groups.

Greenleaf, Schoenbach, Cziko, and Mueller (2001) considered that adolescents need the opportunity to read along with the instructional support to assist them when they do read. Greenleaf et al. engaged in a case study methodology of 30 ninth-grade students in a minority setting. Initial analyses of these cases showed that teachers needed to model and overtly convey processes of reading at varying levels. Greenleaf et al. worked with school staff to develop a course that they termed academic literacy. The target population was ninth graders in a school made up of 30% African American, 25% Latino, 24% Chinese American, 7% Filipino American, 8% other non-White

students, and 4% White students; 33.2% were eligible for free or reduced lunch. The course focused on reading that would relate to students' lives and build their time spent on reading, as well as fluency and achievement.

After the completion of the course of study, Greenleaf et al. used both standardized testing (DRP) and qualitative data, such as surveys, student reflections, interviews and observations, to identify the results; eight students were involved in intensive case studies. The authors stated that these students participated voluntarily, yet their teachers recruited them. There appeared to be some contradiction in this approach for sampling. Prior to the academic literacy course, students were reading, on average, at the seventh grade level. By the end of the course they had made gains to be on grade level (9th). "Even though the course was taught by teachers with different levels of experience and from different disciplinary backgrounds, students in all of the teachers' classes made significant progress" (p.112). Mean score gains were only reported for students who participated in the study, thereby eliminating any possible concluding results that could be drawn from gains made by students who did not participate in the study. A multivariate test was applied to note the placement of students with certain

teachers in relation to the mean difference change in DRP scores. The authors followed up with students to elicit feedback on the course. The number of books students read doubled from fall to spring, students reported that they were aware of reasons to read, and were able to communicate their understanding of the process involved in reading.

The Case for Study

The literature in the field of middle-level reading was relatively limited (Jackson & Davis, 2000) compared to that of early childhood and primary literacy. This emerged in the review of research (Bintz, 1993; Greenleaf, et al., 2001; Showers, et al., 1998). The studies presented suffered greatly in research methodology and reporting of findings. In 1999, the International Reading Association (IRA) published a position statement citing a neglect of adolescent reading by schools, policy makers, and the public (Moore, et al., 1999). Vacca (1998) indicated that "we hear much less . . . about a crisis in adolescent literacy" (p. 604).

Allington (1999) reviewed a meta-analysis of international studies finding that American students ranked second in reading for elementary school but fell to the middle during the emergence of adolescence. Wilhelm, et al. (2001) commented that this was due in part to the

following "factors: (1) students are actively taught to read in elementary school and then are expected to read without further support once they enter middle school; and (2) reading is seen as the ability to decode words" (p. 39) and are not provided additional support to deal with more "sophisticated text" (Smagorinsky & Smith, 1992). Allington's findings emphasized the need for further study in adolescent literacy.

The notion that Newfield Middle School students are not meeting the standards-based rigors that are expected, coupled with their potential inability to function in a literacy based society as adults, warrants enough focus on middle level reading initiatives. "To participate fully in society and the workplace in 2020, citizens will need powerful literacy abilities" (International Reading Association, 1996, p. 5). In addition, federal legislation has been enacted to engage in reading instruction that works (No Child Left Behind, 2002). Unfortunately, as Ivey (2000) noted, "federal and state legislation is focused almost exclusively on beginning reading in the primary grades, despite an undeniable need for research on how to help older readers" (p. 1). One recent example of potential legislation for middle school reading was *Just Read, Florida!* (Richard, 2004, p. 21). Vacca (1998)

mentioned that the neglect of adolescent literacy was evident in educational policy. The findings of the present study should provide indicators for policy makers to add focus on middle level education, specific to reading. Although New York State has distinguished between reading and English, the Standards of reading at the intermediate level were intertwined in English Language Arts (New York State Education Department, 2002). Teachers must have the expertise to connect levels of standards with reading skills for students at differing levels. Therefore, the results of this study will place emphasis on the need for states to examine teacher preparation programs with regard to reading (Humphrey, 2002).

While there is elaborate research on reading in the content areas (Billmeyer & Barton, 1998; Dornan, Rosen, & Wilson, 1997; Herber, 1970) and reading through integration (Allen & Gonzalez, 1998; Langer, 2001; Wood & Dickinson, 2000; Wood & Harmon, 2001), there has been much less focus on the acceleration of reading abilities for all students once they have reached adolescence, thus adding to the limited knowledge base in this area. Leaders of middle schools are faced with a serious problem of test performance that requires reading proficiency, and yet they have students who are struggling readers. In fact, the

impact of reading ability reaches beyond English language arts. In New York State, 90% of middle-school students at each school are required to reach levels of three and four on mathematics, social studies, and science assessments as well. The framework of these assessments requires proficiency in reading (New York State Education Department, 1996). A report from the New York State Education Department indicated that students in New York State middle schools were performing far below the Standards (1996). Standards do incite concern, but if they are used as guides for instruction, they can be useful (Cunningham, 1999). The Nation's Report Card (2000, p. x) declared that "although the national average scale score has remained relatively stable, significant changes are evident at the . . . lower ends of the performance distribution . . . the score at the 10th percentile was significantly lower than 1992" indicating that there has been an increase in students entering middle schools who are poorer readers. The National Center for Education Statistics (Campbell, Donahue, Reese, & Phillips, 1996) reported that fluency skills are still developing in adolescents, and that no matter what the reading level, middle school students are still learning word patterns and meanings. Middle-school students are also expected to read

more expository text. Muth (1987), however, noted that many students are not being taught how to read this type of text.

"The children of the twenty-first century will face many challenges that will require them to use reading" (Tompkins, 1997, p. 4). Denham and Liebermann (In Allington, 2001) demonstrated that there is a link between time on task and achievement. Students will inevitably be faced with future literacy challenges. If balanced with the impact of engaged time, however, students can attain the basic reading components of phonics, phonemic awareness, and fluency (National Reading Panel, 2001). In addition, with these basic components of reading, students can engage in the complex cognitive process of reading comprehension. As Allington (2001) indicated, "The new national and state standards for proficient reading target a more thoughtful literacy than has traditionally been expected . . . " (p. 87).

In addition, students should engage in developmentally appropriate literacy practices by interacting with each other (Broaddus & Ivey, 2002, p.8) and critically thinking about a subject (Wepner, et al., 1989, p. 80). Much of the SSR literature purports the ultimate goal of students reading books for enjoyment (Boschee, Whitehead, & Boschee,

1993; Marshall, 2002). While early intervention and the implementation of class-size evidence (e.g., Word, et al., 1990) may be the ultimate goal, many middle school students still struggle as readers. For adolescent learners, educators must continue to "make the connection between the ways in which children learn language and the ways in which they use language" (Taylor, 1989, p. 192-193).

Summary

Implications from this research review suggest that direct reading instruction is highly appropriate for struggling adolescent readers. This instruction must take place in a course specifically designed for such a purpose. Unfortunately, as Ivey (2000) noted, "federal and state legislation is focused almost exclusively on beginning reading in the primary grades, despite an undeniable need for research on how to help older readers" (p. 1). This is a clear message to policy makers and informs school administrators and teachers to begin to examine the structure of the school day, required coursework, and the instructional practices for teaching reading. State-level decision-makers must also examine the potential gains for readers when given the chance to engage in meaningful, direct instruction to learn the process of reading for success in school, and ultimately in life.

This chapter has provided a review of the related research and literature regarding adolescent literacy, specifically direct reading instruction. The review provided a context for the problem of proficiency in middle- school readers and that the literature in the field of middle-level reading is relatively limited (Jackson & Davis, 2000) compared to that of early childhood and primary literacy.

Chapter 3 presents a review and expansion of the methods and procedures for this study that were introduced in chapter 1.

Chapter III

Methodology

This chapter describes the design of the study for which the purpose was to investigate the impact of time in direct reading instruction (DRI) for Newfield Middle School students by assessing their overall reading achievement on the New York State Intermediate English Language Arts Assessment (NYSIELAA) and the Degrees of Reading Power (DRP) test. Student performance was compared for students who did not participate in a DRI course (Comparison group) with those who did participate in a DRI course (Treatment group).

Context for the Study

The study centered on middle school students enrolled at Newfield Middle School (NMS) required to take the NYSELAA for the school years 1999 to 2003. Newfield Central School District is located in Tompkins County, New York, serving students in pre-kindergarten through grade 12 with a mean student population (1999-2003) of 1031. As indicated in the New York State School Report Card (New York State Education Department, March 2002), Newfield Central School District has been categorized as a rural district with high student needs in relation to district resource capacity.

The Participants for Study

The study included the NYSIELAA results of all middle school students who took the test since its inception in 1999. The comparison group consisted of students who did not participate in direct reading instruction at NMS for the years ending 1999-2001. These Grade-8 students (1999-2001) were enrolled in a typical English language arts (ELA) class for Grades 6, 7, and 8 (average class-size = 18). The study also included all students who participated in DRI intervention as part of an extended school day at NMS for the years 2002 and 2003, in addition to ELA class. The NYSIELAA test scores for these students were considered the treatment group results (average reading class-size = 7.3). Also included is the population of students from 2001 - 2003 who participated in the DRP test and were represented in both the comparison and treatment groups.

A district database was used that provided anonymous reporting of student scores on the NYSIELAA and on the DRP test. The NYSIELAA is given to each New York State public school district for administration to students in Grade 8. The structure and format of the test remain constant, but the content changes for each administration. The DRP is a standardized test. The Newfield Central School District has purchased the DRP test materials as part of its yearly

testing program for students in elementary and middle school. Because this research is specific to the needs of students at NMS, the treatment group is the population of students, thereby providing population validity.

Validity and Reliability Information

Results of analyses based on test score outcomes are more robust if the validity and reliability of the tests are high. The two tests used in this study were the DRP and the NYSIELAA. Each is discussed separately.

The Degrees of Reading Power (DRP) Test

"Approximately 48,000 1st through 12th graders participated in the norming study" of the DRP test (Touchstone Applied Science Associates, 2000, p. 3). Weighted percentages based on regions of the United States were used to make the sample more representative in terms of geography, socioeconomic status, and size of the school district. Koslin, Zeno, Koslin, Wainer, and Ivens (1987), obtained findings that support the effectiveness of the DRP as a measurement for reading. Specific test administration procedures were provided by Touchstone Applied Science Associates Applied Science Associates for test administrators to follow when giving the DRP, thus increasing the reliability of the test results. Because the guiding hypothesis of this study was directly related

to reading performance, the DRP test was an appropriate outcome measure.

*The New York State Intermediate English Language Arts
Assessment (NYSIELAA)*

According to a memo written to all teachers and administrators of public and nonpublic schools in New York State (New York State Education Department, 2001), Kademus, Deputy Commissioner of Education for the State of New York, addressed the validity and reliability of the intermediate State assessments (e.g., the NYSIELAA). He stated, "We are confident in the validity of the State assessments. For each examination there is a body of statistical evidence that confirms that the examination measures one important skill . . ." (p. 3). Kademus also commented, "New York State test questions undergo sensitivity reviews by certified experts . . . as well as bias reviews" (p. 3).

With regard to reliability, one source is interrater agreement, which is "very high for all of the State examinations" (p. 3). Another source is internal consistency. "State examinations with essay components typically have reliability rates (sic) of .89 to .94, while tests having larger multiple choice components have even higher reliability ratings." Scorers all received uniform training, and uniform procedures were provided to each

rater. The State also performed audits on a sample of examinations in each year of the test administration.

Because these statements of confidence called into question test validity and reliability, the researcher contacted the State Education Department to obtain additional support. A question and answer document stated, "Q: Why are the results of the reliability and validity studies on the new State assessments considered good and defensible? A: The validity and reliability studies are conducted with each test administration and are, therefore, replicable. Because they are replicable, they are defensible. The studies are reviewed by expert committees for their soundness" (New York State Education Department, September 2001, p. 14). Deputy Commissioner Kademus also noted the use of national, psychometric experts and public scrutiny. Additional study citations were also alluded to ("Predictive Sources," 2002; "Determining the Scoring," 2002; "Technical Report," 2002). The NYSIELAA uses Item Response Theory. "IRT pattern scoring produces scores for individual students that are more accurate than those produced by number-correct scoring. The increase in accuracy is approximately equivalent to a 15 to 20% increase in the number of questions on the test" (New York State Education Department, 2000). Johnston (In Pearson,

2002) noted, however, "because each method of manipulation seems to pose a different task for the learner, the validity of the test is threatened," in speaking about IRT (p. 157). " . . . the assumption that an individual item is independent of its context is not reasonable. The order in which questions are presented tends to influence the manner in which individuals respond to them . . . the IRT assumption of independence of context is blatantly absurd" (p. 170).

Groups for Study: Comparison and Treatment

The comparison group for this study was operationalized as 3 years of classes of students who had not been exposed to direct reading instruction in a designated reading class. These classes consisted of students who were randomly assigned to Grade-8 ELA class instruction that focused on literary elements, without regard to phonemic awareness, decoding, fluency, comprehension, or higher order thinking skills ("Honig, 1997).

The treatment group was operationally defined as the 2 years of classes of students who participated in ELA class for Grades 6, 7, and 8, and also in DRI, implemented by extending the school day for all students. These students had multiple levels of reading ability, from beginning

readers to master readers. Each student in treatment group A (ELA plus 1 year of DRI, 2002) received 1935 minutes of direct reading instruction during middle school, in addition to ELA class. Treatment group B (ELA plus 2 years DRI, 2002 and 2003) received 3870 minutes of DRI during middle school, in addition to ELA class. The instruction was developmentally based, as assigned by DRP score, (Hosking & Teberg, 1998; Ivey & Broaddus, 2000, p. 73), centered on flexible groupings ranging from 4 to 12 students (Davidson & Koppenhaver, 1988, p. 190), and was designed to accelerate literacy development (Cooper, Boschken, McWilliams, & Pistoichini, 1997; Johnston & Allington, 1990). Responding to the literature and professional practice, teachers recognized that struggling readers tend to avoid reading (Cunningham & Stanovich, 1997). Therefore, the reading environment was structured to foster confidence.

Students were assigned to classroom achievement groups based on DRP scores and a model of classroom management was used to allow students to take risks in front of their peers, provide reading opportunities to demonstrate success, and determine skill focus that provided rigor for reading improvement. Level of participation in a literacy group, or any learning setting, was influenced by the size

and social makeup of the group (Achilles, 1999; Gambrell & Mazzoni, in Gambrell, Morrow, Neuman, & Pressley, 1999, p. 16).

Allington (1994), stated that "although we have double the number of adults in schools since 1960, virtually all of those new personnel are specialists and support staff . . . We must create schools with classroom literacy instruction" (p. 25). Classroom teachers need to provide instruction to students in classes of small size (Achilles, 1999) to maximize the opportunity for direct reading instruction. Content-area teachers, such as mathematics, ELA, and social studies, as well as general elementary classroom teachers provided the Newfield Middle School's direct reading instruction. Reading specialists did not provide reading instruction. There are no remedial reading courses. In a vision statement (Davidson & Koppenhaver, 1988, pp. 20, 194), Newfield Middle School teachers stated that they "believe that even middle-school students who are extremely behind their peers in reading can make significant strides given the right kind of instruction" (Ivey, 1999; Morris, Ervin, & Conrad, 1996). The vision statement included the belief that although there is an emphasis on standards and the NYSIELAA (New York State Education Department, 2002), reading instruction should not

be limited to test-taking practices (Ivey, & Broadus, 2000, p. 76). All students took standardized reading tests and the NYSIELAA, unless exempted on an Individual Education Plan, to document progress (Davidson & Koppenhaver, 1988, p. 20), which will be analyzed in this study.

Design

This study employed both descriptive and inferential methodologies using a time-series approach where the results from 1999-2001 served as the baseline or comparison outcomes. The implementation of DRI was the treatment and the results from 2002 and 2003 NYSIELAA scores served as the treatment outcomes. The researcher investigated the impact of the independent variables, time in reading instruction (a treatment factor), gender, and special education services (subject-classification factors), to student performance, the dependent variable, based on student test results on the NYSIELAA for students who participated in DRI as compared to performance on the NYSIELAA for students who had not participated in DRI. Factor types were categorized from Calfee and Piontkowski (In Pearson, 2002, p. 63).

The NYSIELAA mean scores were also used to calculate effect size (Hinkle, Wiersma, & Jurs, 2003, p. 247) for each of the independent variables and the respective

treatment. These results added to the study for practical application and interpretation of the student scores.

Effect sizes were calculated using Equation 1.

$$\text{Effect size}(d) = \frac{\bar{d}}{s_d} \quad (1)$$

\bar{d} = the mean of the differences: (Treatment Group Mean - Comparison Group Mean)

s_d = the standard deviation of the comparison group

The DRP test scores were also used in the study. The researcher investigated the differences in the means of DRP scores prior to any treatment (2001) and the means of DRP scores following both 1 year (2002) and 2 years of treatment (2002-2003). These data were evaluated using matched-pair *t* tests, with level of significance set at $p \leq .05$. An analysis of variance, as used with the NYSIELAA results, could not be used with DRP scores as test administration dates and grade levels were not reflective of the designed comparison and treatment groups.

The data were taken from the Newfield Central School District database of test results. This database provided for a code-based report of student scores in a list format.

Data were obtained for the treatment group based on student enrollment in a DRI class. Data were organized by classroom teacher and listed by an identification number. The DRP test scores and NYSIELAA scores were reported for each identification number, for the appropriate years. The treatment group was assessed using scores obtained in 2002 and 2003. This same procedure was used to obtain data for the comparison group (students who had only been enrolled in an eighth grade ELA class for the 3 years 1999-2001).

Data Analysis Method

After the data had been collected, a table was created that identified the NYSIELAA and DRP scores for students in the treatment and comparison groups. By comparing groups that received DRI and those that did not receive DRI, findings in this study will estimate the value added by the DRI program above those students who did not participate in such a program. Because the treatment group was exposed to DRI, the outcome measure (NYSIELAA) observed between the two groups can help to determine whether or not any obtained differences are attributable to chance.

The research employed a 2 X 2 X 3 factorial design to study the effects of three independent variables, instructional class, gender, and special education on the dependent variable, NYSIELAA, administered to eighth

graders. The incorporation of gender and special education as independent variables was advantageous in providing control over the variables in the design. This design allowed several variables to be studied simultaneously. "The greater number of variables manipulated in a given setting, the less artificial the situation will be. The desirability of this "ecological validity" has been argued carefully by Bronfenbrenner (1976)" (Kamil, M. In Pearson, 2002, p. 48).

An analysis of variance (ANOVA) provided a test statistic, *F* ratio, for the main effects and any interaction effects between the variables. The resulting *F* ratio indicated the critical values to test the hypotheses or answer the research question.

Assumptions

In this study, the researcher assumed that all teachers were qualified to teach reading to middle-school students as each was certified as an elementary teacher, reading teacher, or secondary teacher. Teachers for DRI adjusted instruction for the particular group that they were instructing, based on DRP score. The researcher did not examine a particular method of reading instruction. The purpose of the study was not to recognize a teacher effect or class-size effect on student performance.

Rather, the study assessed the "value added" reading performance of students who had a DRI class in a homogeneous, flexible group in addition to a standard ELA class. The school day for the treatment students was extended 42 minutes, so a gain would be expected, based on time on task or an opportunity to learn research and theory.

Guiding Null Hypothesis

There will be no difference in student achievement for those students who engaged in a traditional English language arts (ELA) class at Newfield Middle School (NMS) from those who engaged in direct reading instruction (DRI) in addition to the typical ELA class.

Research Question

How did the provision of DRI to middle school students influence their achievement level on two tests: the NYSIELAA and the DRP test?

Subsidiary Questions

1. How did the provision of DRI at the middle level impact student performance on the NYSIELAA by gender?
2. How did the provision of DRI at the middle level impact student performance on the NYSIELAA by receiving special education services as stipulated by an IEP?

3. How did the provision of DRI at the middle level impact student performance on the DRP test?

Limitations

Limitations are inherent in all research. The subjects are human beings (in this case, adolescents), but it was assumed that all participants put forth their best effort while taking the DRP and NYSELAA. Because this study focused on one particular middle school, the results were limited in their generalizability to other middle schools. Although this limits the external validity by having weak generalizations, there is hope that there can be strong inference from the results.

Limitations were imposed by the qualifications and abilities of teachers' instruction, particularly with the literature suggesting that "middle grade teachers should know the gamut of reading development" (Irvin, 1990, p. 26; Roe, 1992, p. 194). Although all of the teachers have had the same professional development while employed at Newfield Middle School, all teachers had varied pre-service and master's-level training. Not every student had equal instruction because of human differences associated with the art of teaching. A one-size-fits-all reading program is not conducive to adolescent reading instruction (Tomlinson, Moon, & Callahan, 1998), yet an individualized,

specific program could not be identified due to the vast developmental levels of middle-school students. Both Lipsitz and Irvin (In Jackson & Davis, 2000, p. 88) noted that the ideal situation would involve reading specialists teaching reading in middle schools, the financial constraints of the Newfield community did not allow for this ideal circumstance. Ivey and Broadbush (2000) advocated for better use of classroom teachers by having them provide reading instruction to middle-school students (p. 72). Some discrepancy was evident in the literature as to the ideal method for reading instruction at the middle level.

The subjects of this study were predominantly White, thereby limiting the generalizability for students of minority backgrounds. The number of special education students was also a small portion of the population considered for the NYSELAA results. The literature suggested that definitions of literacy are changing with the dawn of the 21st Century (Elkins & Luke, 1999; Gordon & Gordon, 2003). This study focused on literacy specific to reading and did not consider aspects of writing, critical literacy (Moje, et al. , 2000, p. 400), or computer literacy (Alvermann, 2001).

The population of students in this study was predetermined under the conditions of scheduling practices of the Newfield Central School District, and therefore did not allow for randomization in creating the treatment groups. With the use of intact groupings of English language arts, scheduled at random, or reading classes, and a small school population, the population size was small. Class assignments were provided to teachers by the administration and students were then assigned to those classes. In addition, the validity and reliability of the NYSIELAA was based only on a "statement of confidence" by Deputy Commissioner Kademus (New York State Education Department, 2001).

Another limitation of this study was that a teacher's internalization of the training practices was not quantifiable. Allington and Cunningham (2002) noted, "the amount of time engaged in learning is the most potent predictor of literacy learning" (p.132). This study emphasized time devoted to ELA instruction, in general, and time for direct reading instruction. A limitation of the time factor is that no indicator was used to acknowledge engaged time versus scheduled time. A major finding of teacher effectiveness studies (Allington & Johnston, 2001; Pressley, Allington, Wharton-McDonald, Collins-Block, &

Morrow, 2001; Taylor et al., 2000) was that "lower achieving children with more effective teachers . . . were more likely to be engaged in their work" (Allington & Cunningham, 2002, p. 133). Students at Newfield Middle School were assigned to teachers based on the administrator's perceived competence of the teachers and their professional training. With the exception of graduate education, all teachers received equal amounts of time in specified professional development related to reading.

Standardized testing does not give the whole picture of a child's reading ability. While the DRP measure provided multiple forms to account for a maturation effect, there was no way to control for this as a result of participation in ELA class. Also, Boschee, et al. (1993) cautioned, "Be aware that most assessment instruments provide only a partial measure of a student's ability and achievement" (p. 88). In addition, Coles (2001), in his critique of the National Reading Panel's meta-analysis, chided the panel for its attempt to compare instruction with lack of instruction (p.207). While this limited the results of the study, research contended that providing the opportunity for direct reading instruction was better than no reading instruction at all. One additional barrier to

the testing, however, was timing. In 1999 and 2000, the NYSIELAA was administered in May. In 2001 and 2002, the assessment was administered in March. In 2003, the assessment was administered in January. This should be noted with regard to performance results from the testing. In 2002, Item Response Theory (IRT) was also utilized for standardizing raw scores. This method of measurement did not exist in the NYSIELAA prior to this date.

Strengths of the Study

The entire population of Newfield Middle School who took the NYSIELAA in Grade 8, since the test's inception in 1999, participated in the study. A regional student database was used to access the data used for study. The data were entered using computerized scoring methods and obtained using data retrieval cells to call up information pertaining directly to the NYSIELAA results for Newfield Middle School students between the years 1999-2003. Trained educators who received uniform training scored the NYSIELAA. The same teacher instructed every middle-school eighth grader in ELA for the entire period of study 1999-2003. One hundred percent of the teachers in both the comparison and treatment group were certified by the New York State Education Department in Elementary Education, Secondary English Education, or Reading. Finally, the

population was normally distributed (kurtosis value = + 1.5; skewness value = .569). "A kurtosis value between \pm 2.0 is acceptable . . . a skewness value between \pm 1.0 is considered excellent" with regard to the shape of the distribution (George & Mallery, 2001, pp. 86-87).

Chapter 3 presented the methodology for the study. Using the continuously enrolled population of eighth grade students for comparison of the NYSIELAA and the students continuously enrolled in Grades 7 and 8 for the years 2001-2003 for the DRP score comparison. Chapter 4 presents the data and results of the statistical analyses using the Statistical Package for Social Sciences (SPSS), version 11.0 for the question, how does the provision of direct reading instruction to middle school students influence their achievement levels?

Chapter IV

Results: Data and Analyses

The researcher's purpose for conducting this study was to investigate the impact of reading instruction for middle- school students, their overall reading achievement following direct reading instruction, and their performance on the New York State Intermediate English Language Arts Assessment (NYSIELAA) and Degrees of Reading Power (DRP) test.

H₀: There will be no difference in student achievement for those students who engaged in a traditional English language arts (ELA) class at Newfield Middle School (NMS) from those who engaged in direct reading instruction (DRI) in addition to the typical ELA class.

Tables are included to summarize results.

Descriptive Statistics

For the 5 years involved in the study (1999-2003) Table 1 shows that specific demographic characteristics were fairly constant, and thus similar between the treatment (2002 and 2003) and comparison (1999 - 2001) groups in the study. Enrollment (N) in NMS ranged from 197-233. Students receiving special education services (IEP) were from 17.3% to 24% of the N for this same period.

During the study, gender and race were stable: the percentage of females enrolled at NMS ranged from 45.6% to 49.8%; the percentage of Caucasian students ranged from 94.2% to 97.5%. However, the percentage of students documented as receiving free or reduced-priced lunch, as a measure of, or proxy for, economic background, increased from 33% in 1999 to 49% in 2003.

Table 1

Newfield Middle School (Grades 6-8) Demographics for Comparison (1999-2001) and Treatment (2002-2003) Groups

Category	Comparison				Treatment		
	1999	2000	2001	Ave*	2002	2003	Ave*
Total (N)	233	219	197	216	202	223	213
%Spec Ed	24	21	17.3	21	19.8	22.8	21
%Females	49.3	45.6	48.2	48	49	49.8	49
% White	96.1	97.3	97.5	97	96.5	94.2	95
% F/R Lunch**	33	43	42	39	48	49	48

Note. * Rounded average **Free/Reduced-price lunch

As shown in Table 2, mean class-size for students enrolled in Grade-8 ELA instruction changed due to a

decision to offer four sections of ELA instruction in 2001, 2002, and 2003, as opposed to only three sections of ELA instruction in 1999 and 2000.

TABLE 2

English Language Arts (ELA) Grade Eight Mean Class Sizes, 1999-2003

Class Size	1999 ^a	2000 ^a	2001 ^b	2002 ^b	2003 ^b
<i>M</i>	19.25	24.6	12.75	14.75	17

Note. ^a = Three sections of ELA; overall mean = 21.9

^b = Four sections of ELA; overall mean = 14.8

Table 3 shows overall standard scores on the NYSIELAA for comparison group by years, and the composite mean score of 704.15. The treatment group means for ELA instruction plus one year of DRI (Group A) and ELA instruction plus two years of DRI (Group B) were 699.98 and 701.37, respectively. The 7.27 increase in 2001, the year prior to DRI instruction, over the 2000 score (and 5.38 over the 1999 score) may suggest a class-size effect for ELA. For analyses of NYSIELAA results, the study consisted of 345 students who attended NMS between the years 1999 and 2003.

TABLE 3

Test Outcomes (NYSIELAA) for Comparison and Treatment
Groups, Grade 8 ELA Achievement

Variable/Years	<i>n</i>	<i>M</i>	<i>SD</i> *	<i>MD</i> **
<u>Comparison Group</u>				
Std*** Score 1999	77	702.71	28.88	
Std Score 2000	79	700.82	28.45	-1.89
Std Score 2001	54	708.09	24.75	+7.27
Composite Score Group (1999-2001)	210	704.15	27.30	
<u>Treatment Group</u>				
Std Score (ELA + 1 yr) (Group A 2002)	68	699.68	23.30	-4.47
Std Score (ELA + 2 yrs) (Group B 2002-2003)	67	701.37	27.35	-2.78
Composite Score (2002-2003)	135	700.53	25.32	-3.62

Note. Std*** = Standard MD** = Mean difference
from 1999 or from
composite (1999-
2001)

Analysis of Variance (ANOVA)

One analysis used a 2 X 2 X 3 factorial design to study the effects of three independent variables, time in DRI, gender, and special education on the dependent variable, test score outcomes of Grade-8 students on NYSIELAA scores. Table 4 shows the between-subjects factors. Main effect₁, gender, included 178 males (coded 1) and 167 females (coded 2). Of the 345 students, 25 were classified as special education [Main effect₂, coded 1] and had Individualized Education Plans (IEP). Main effect₃ was time in ELA, or in ELA and DRI. Of the participating students, 210 were in the comparison group (coded 1) and had only ELA in middle school, Grades 6 through 8, prior to taking the NYSIELAA. In treatment group A (coded 2), 68 students took ELA in Grades 6 through 8, and additionally participated in 1 year of DRI prior to taking the NYSIELAA in Grade 8. Students (n = 67) in treatment group B (coded 3), took ELA plus participated in an additional course of DRI for 2 years prior to taking the NYSIELAA in Grade 8.

Table 4

*Between-Subjects Factors (345 students, 1999-2003) for
Analysis of Variance of NMS NYSELAA*

Factor	Code Label		N	Comparison	Treatment
				n	n
Gender	1	Male	178	107	71
	2	Female	167	103	64
Special	0	No IEP	320	203	117
Education(IEP)	1	Has IEP	25	7	18
DRI Time	1	ELA only	210	210	
	2	ELA+DRI,1 yr	68		68
	3	ELA+DRI,2 yrs	67		67

Subsidiary Question 1

How similar was the effect of DRI on NYSELAA performance for males and females?

Subsidiary Question 2

How did the provision of DRI at the middle level impact performance on the NYSELAA of students receiving special education services as stipulated by an IEP?

A summary of the cell means and standard deviations for the ANOVA analysis appears in Table 5.

TABLE 5

Summary of Cell Means and Standard Deviations

Independent Variables: Gender (Male, Female); Special Education (Non-IEP Students, IEP students); DRI Time (ELA only (1999-2001); ELA + 1 year DRI (2002); ELA + 2 years DRI (2002-2003))

Gender	Spec Ed	DRI Time	M	SD	N
Male	No IEP	ELA Only	700.81	24.89	103
		ELA+DRI1yr	703.71	24.80	34
		ELA+DRI2yrs	699.96	19.19	26
		Total	701.28	23.96	163
	Has IEP	ELA Only	641.75	14.93	4
		ELA+DRI1yr	683.43	15.64	7
		ELA+DRI2yrs	681.00	3.36	4
		Total	671.67	22.46	15
	All	ELA Only	698.60	27.00	107
		ELA+DRI1yr	700.24	24.57	41
		ELA+DRI2yrs	697.43	19.02	30
		Total	698.78	25.16	178
Female	No IEP	ELA Only	711.18	25.69	100
		ELA+DRI1yr	698.81	21.65	27
		ELA+DRI2yrs	711.67	30.89	30
		Total	709.15	26.399	157

Table 5 (continued).

Total	Has IEP	ELA Only	668.00	22.517	3
		ELA+DRI1yr			0
		ELA+DRI2yrs	674.14	19.819	7
		Total	672.3	19.579	10
	All	ELA Only	709.92	26.532	103
		ELA+DRI1yr	698.81	21.651	27
		ELA+DRI2yrs	704.57	32.504	37
		Total	706.94	27.434	167
	No IEP	ELA Only	705.92	25.760	203
		ELA+DRI1yr	701.54	23.401	61
		ELA+DRI2yrs	706.23	26.563	56
		Total	705.14	25.454	320
	Has IEP	ELA Only	653.00	21.848	7
		ELA+DRI1yr	683.43	15.640	7
		ELA+DRI2yrs	676.64	15.845	11
		Total	671.92	20.936	25
	All	ELA Only	704.15	27.308	210
		ELA+DRI1yr	699.68	23.303	68
		ELA+DRI2yrs	701.37	27.351	67
		Total	702.73	26.567	345

Inspection of mean scores showed that general education students outperformed students with IEPs, as a whole (705.92 : 653.00) as well as by gender (males, 700.81 : 641.75; females, 711.18 : 668.00). As a whole, females outperformed males on NYSIELAA standard scores, 709.92:698.60. Caution should be given with regard to sample size for each factor.

Although $p \leq .05$ was set as the criterion for statistical significance in this study, actual significance levels were reported. A factorial analysis of variance (ANOVA), in which gender, special education, and DRI time were the independent variables, and performance on the NYSIELAA was the dependent variable, revealed that the model was significant ($F = 6.445$, $df = 10/334$, $sig. = .000$). In addition, main effect₂, special education, was significant ($F = 39.987$, $df = 1/343$, $sig. = .000$). Main effect₁, gender, and main effect₃, instruction, showed no significant difference on NYSIELAA performance as a result of treatment. The interaction between gender and instruction, however, was significant ($F = 3.358$, $df = 2/342$, $sig. = .036$). The complete results of this ANOVA are summarized in Table 6.

TABLE 6

Analysis of Variance for NYSIELAA Score by Gender, Special Education, and DRI Time, Grade 8 Achievement 1999-2003

Variance Source	SS	df	MS	F	*Sig.
Model	39272.971	10	3927.297	6.445	.000
Gender (G)	699.554	1	699.554	1.148	
Spec Ed(SE)	24365.449	1	24365.499	39.987	.000
DRI Time (I)	2334.397	2	1167.199	1.916	
G x SE	6.759	1	6.759	.011	
G x I	4092.459	2	2046.230	3.358	.036
SE x I	3171.334	2	1585.667	2.602	
G x SE x I	1110.789	1	1110.789	1.823	
Error	203518.959	334	609.338		
Total	170614164.0	345			
Corrected Total	242791.930	344			

Note. * $p \leq .05$

To analyze in detail between which groups significant differences occurred, pairwise comparisons were made using the test of Least Significant Difference, making an adjustment for multiple comparisons of means as if they were equivalent between groups with no adjustment (George &

Mallery, 2001). The mean difference on NYSIELAA standard scores (705.14) for students without IEPs and standard scores (671.92) for students with IEPs was 34.692 and was significant ($p \leq .05$). Students who did not have an IEP scored significantly higher on the NYSIELAA than did those students who received special education services.

Examination of the interaction between gender and instruction (Table 5) showed that females scored higher than did males on the NYSIELAA regardless of DRI time received. Post hoc analyses were not completed for interaction effects because of the small number of groupings for the independent variables (George & Mallery, 2001).

Cohen (In Hinkle, Wiersma, & Jurs, 2003) defined effect size as the "degree to which a phenomenon exists" (p. 247). For purposes of this study, they "provide another measure of the magnitude of the difference expressed in standard deviation units" (p. 249), thereby indicating the practical importance of the treatment (DRI). Appendix C shows a complete listing of effect sizes for each variable and their respective levels.

For this study, the guidelines for effect size (σ) interpretation were: Small = $.25\sigma$, Medium = $.50\sigma$, and Large = 1.0σ or greater (p.248). Slavin (2003) advocated

that an "effect size above +0.50 would be considered very strong" (p. 14). Although caution should be given to the small sample size, male special education students who had ELA plus 1 year of DRI time and male special education students who had ELA plus 2 years of DRI time, had large effect sizes of 2.79 and 2.62 respectively; the differences between the two sample means were 2.79 and 2.62 standard deviation units from zero. These findings were congruous with the ANOVA results. While there were no female special education students who had ELA plus 1 year of DRI, when combined with males, gender shows a large effect size on ELA plus 2 years of DRI time (1.08σ).

The effect size for non-classified female students was $-.48$, a medium strength. All females who participated in the study for the NYSIELAA, had an effect size of $-.41$, a medium association, for participation in ELA instruction and one year of DRI. These effect sizes were negative. Based on effect size, females who participated in the treatment, on average, scored lower than when they only participated in ELA class.

Subsidiary Question 3

How did providing DRI at the middle level impact student performance on the DRP test?

To increase the sensitivity of testing the hypothesis as well as to add a measure of control to the group through repeated measures, a matched-pair *t* test was used to analyze the DRP results. (ANOVA was not used for DRP outcomes, as scores were not accessible by gender and special education classification.) Pair one consisted of 95 sixth- and seventh-grade students who had only ELA in the year 2001 (comparison) and who participated in DRI in 2002 (treatment), as seventh or eighth graders. Pair two consisted of 48 of the 95 students who had only ELA in 2001 (comparison), as sixth graders, but who participated in DRI for both years 2002, as seventh graders, and 2003 (treatment), as eighth graders. The paired samples *t* test means are shown in Table 7. Pair one mean scores showed a mean gain score from 2001 to 2002, after treatment, of 2.87. Pair two showed a mean score gain from 2001 to 2003, after treatment, of 6.17. These results on the standardized DRP test suggest that DRI helps students read, and that more time (2 years vs. 1 year) in DRI increases student scores to a larger degree.

TABLE 7

Newfield Middle School Paired Samples* Means, Gain
Scores**, and Significance*** on the DRP (2001-2003)

Pair/ Diff	Yrs	M	N	SD	SEM	t	df	Sig.
Pr 1	2001	55.67	95	11.88	1.21			
	2002	58.54	95	14.17	1.45			
Diff		+2.87		8.48	.87	-3.291	94	.001
Pr 2	2001	55.02	48	12.21	1.76			
	2003	61.19	48	13.75	1.98			
Diff		+6.17		6.68	.96	-6.391	47	.000

NOTE.

* Pair one consists of years 2001 (grade 7) and 2002 (grade 8) students. Pair two consists of years 2001 (grade 6), 2002 (grade 7), and 2003 (grade 8) students.

** Gain scores are derived from the mean differences (MD) of the groups on the Degrees of Reading Power (DRP) test.

*** Significance (two-tailed)

t test

This comparison relied upon a non-directional, matched paired-samples *t* test. The *t* value for pair 1, ELA instruction (2001) compared to ELA instruction plus one year of DRI (2001-2002) was significant (-3.291). The *t* value was derived from the paired mean difference divided by the standard error of the mean. When comparing the computed *t* value (3.291) to its critical *t* (*df* = 94; critical *t* = 2.000, *sig.* = .001), it was larger than 2.000, thus providing that the evidence was significant enough to conclude that the observed difference of the means was not just a chance occurrence. For pair one, on average, the mean treatment outcome DRP score was significantly higher than the mean comparison score (Hinkle, et al., 2003, p. 638).

The *t* value for pair 2, ELA instruction (2001) compared to ELA instruction plus 2 years of DRI (2001-2003) was significant (-6.391). The *t* value was derived from the paired mean difference divided by the standard error of the mean. When comparing the computed *t* value (6.391) to its critical *t* (*df* = 47; critical *t* = 2.042, *sig.* = .000), the computed *t* value was substantially larger than the critical *t* value (2.042). The observed difference of the means, showing growth in reading ability as measured by the DRI,

was not just a chance occurrence. For both pairs, one and two, students performed higher on the DRP score after participating in the treatment than they had done when only receiving ELA instruction by itself. The increasing mean difference at least supports that additional time in reading instruction in middle school leads to reading improvement as measured by the DRP. Note that for this analysis, given the database and the processes followed in the school's implementation of DRI, while a different form of the DRP was given each year to account for a natural maturation effect, there was no way to control for a maturation effect as a result of growth from ELA class, an obvious limitation.

This research analyzed the scores on the NYSIELAA and DRP for students who received ELA instruction alone (comparison), and for students who participated in the treatment, DRI, in addition to ELA class. Results were reported in table format and in narrative to explain outcome from an analysis of variance and a *t* test. These tests were used to determine if differences in scores were significant based on the introduced treatment.

Chapter 5 reports a summary of the findings and conclusions that can be drawn from the reported data. The researcher suggests implications of these results for

future study as well as for education policy and current practice in the field. The format for chapter 5 is based on the recommendations of the International Reading Association (1976, pp. 116-117).

Chapter V

Summary, Findings, Conclusions, and Recommendations

Summary of the Study

The purpose of this study was to investigate the impact of time in direct reading instruction (DRI) for Newfield Middle School (NMS) students by assessing their overall reading achievement following DRI. The outcome measures were the performance of the groups on the New York State Intermediate English Language Arts Assessment (NYSIELAA) and on the Degrees of Reading Power (DRP) test (Touchstone Applied Science Associates, 2000).

As noted by Hill (1975) and Greenlaw and Moore (1982), much of the reading focus in middle schools has been in remedial programs for students who have not performed well in reading. It makes sense that a preferred approach would be a preventive effort to provide reading instruction into the middle grades, a level where reading instruction typically is not continually provided. To determine the efficacy of continuing formal reading instruction into the middle grades, the population of the study consisted of 345 students who attended NMS between the years 1999 and 2003. Using a district database, students were grouped, and their reading scores analyzed, based on the reading instruction that they received while in middle school.

All NMS eighth-grade students who took the NYSIELAA since its inception in 1999, and for whom there were NYSIELAA scores served as the population for the study. Those students who only had a regular English language arts (ELA) class (1999-2001) made up the comparison group. Those students who had regular ELA plus additional time each day in a DRI class represented the treatment group for NYSIELAA standard scores. The treatment group was divided into two sections for analysis: Group A had ELA and 1 year of DRI; Group B had ELA and 2 years of DRI. All students received instruction (ELA and DRI) from New York State certified teachers.

In addition, students who were assessed by the DRP measure were also considered in a pretest/posttest fashion. The pair-one comparison group consisted of 95 students who participated in ELA class only and took the DRP in 2001. The following year these same 95 students participated in ELA and also had 1 year of DRI (pair-one treatment group). The pair-two, comparison group consisted of 48 of the original 95 students who participated in ELA class only and took the DRP in 2001. This subset of matched pairs who took the DRP in 2001 again took the DRP in 2003 after having 2 additional years of ELA instruction and 2 years of DRI (pair-two treatment group). Additionally, the

researcher considered how similar the effect of DRI on NYSIELAA performance was for males and females and for students receiving special education services as stipulated by an IEP. The comparison and treatment groups were generally comparable, but some demographics (e.g. special education, free and reduced-price lunch status) changed.

The primary investigation employed Analysis of Variance (ANOVA) using scores on the NYSIELAA, a test matched to state requirements but not standardized, to determine if different groups of students respond differently to the introduction of treatment, in this case DRI. A 2 X 2 X 3 factorial design was used to analyze the effects of three independent variables: time in DRI, gender, and special education. Student scores on a standardized test, the DRP, were also used to investigate the differences in scores following DRI. The DRP scores were evaluated using matched-pair *t* tests.

Findings

Based on the notion that the comparison and treatment groups were comparable (gender, ethnicity) for NYSIELAA, the overall standard scores indicated a comparison group (1999-2001) mean of 704.15. Following DRI (treatment) in addition to ELA class, the mean standard scores decreased in 2002 to 699.98, and to 701.37 in 2003. There were two

possibly confounding variables: the overall mean class-size for ELA decreased from the comparison group (1999-2001) of 21.9 to the treatment (2002-2003) of 14.8, and the percentage of district students receiving free or reduced-price lunch increased from 33% to 49%.

Following the execution of the three-way ANOVA and securing a significant model ($p \leq .05$), there were several outcomes to be considered. Males and females did not score significantly differently on the NYSIELAA. There was no significant difference in mean standard scores on the NYSIELAA between students who had ELA instruction only and those who had ELA instruction plus DRI. Special education was a significant factor on standard score performance on the NYSIELAA. There was a statistically significant difference in mean standard scores between the composite comparison performance (1999-2001) of special education students and the treatment scores (2002-2003) of special education students. Although there was a small sample of students with IEPs, overall, students who did not receive special education services significantly outperformed those who did with means of 700.81 and 641.75, respectively, a mean score difference of 59.06.

There were no significant interaction effects between gender and special education or gender, instruction, and

special education. The interaction effect between gender and instruction (two-way interaction), however, was significant ($F = 3.358$, $df = 2/342$, $p \leq .05$). Although not statistically significant, on average overall, female students scored higher (absolute value) than did male students on the NYSIELAA, 706.94:698.78.

"Inferential statistics is a tool for analyzing and interpreting data; it is not a substitute for the knowledgeable interpretation of results" (Hinkle, Wiersma, & Jurs, 2003, p. 270). Effect sizes (ES), based on the work of Glass (1976), were calculated. There was a very strong association for students with IEPs who participated in ELA instruction and one year of DRI (ES, 2.79) and for students with IEPs who participated in ELA instruction and 2 years of DRI (ES, 2.62). Although the sample size was small, this outcome has ample practical significance. This was also true by gender, as male improvement had large effect sizes (1.39, 1.08) in relation to the treatment. Finally, there was medium association for females who participated in ELA and 1 year of DRI (Females without IEPs = .48; All females regardless of classification = .41). Analysis of means, showed that female scores decreased after participation in ELA class and DRI instruction.

Analyses performed using the DRP test outcomes were somewhat different from analyses using the NYSIELAA outcomes. While the DRP measure has multiple forms to account for maturation of students having an effect on student scores, there can be no control for participation in ELA class having an effect on DRP results from natural maturation in a given year's period of time. Student performance on the DRP showed a significant increase following DRI. Using results of paired samples, student scores for pair one (ELA only vs. ELA plus 1 year of DRI) demonstrated a mean gain from ELA instruction alone to ELA instruction plus 1 year of DRI of 2.87. Pair two scores (ELA only vs. ELA plus 2 years of DRI) showed a mean gain of 6.17. Using a non-directional matched sample t test, both pairs showed statistically significant gains ($p \leq .001$).

With regard to specific assessment, the null was retained for achievement when results related to the NYSIELAA. In fact, when examining standard scores alone, student mean standard scores remained relatively stagnant over time, slightly decreasing when examining comparison and treatment groups (Comparison group = 704.15; Treatment group A = 699.68; Treatment Group B = 701.37). There was an evident DRP test-score improvement for students enrolled

in and attending a class for DRI in addition to ELA class. Students enrolled in DRI for 2 years had greater gains, on average, than did those with just 1 year of DRI. Absent only a maturation effect, the null hypothesis would not be accepted using the results of the DRP analyses ($p \leq .05$). Table 8 provides a summary of major findings.

Implications

The findings and conclusions have certain implications for practice, future research and theory development, and education policy. The original purpose for this study was to investigate the impact of DRI time for Newfield Middle School students by assessing their overall reading achievement following DRI. Because the null was retained for achievement on the NYSIELAA, concern arose with regard to the assessment results. New York State publishes a *School Report Card* for each district on an annual basis.

The standard score results (NYSIELAA) are ranked. Scale scores are obtained from raw scores to allow comparisons between test administrations. Scale score values are placed in a continuum of a "lowest obtainable score (527) and highest obtainable score (830)" (New York State Education Department, 2003, p. 20), with a scale score mean of 697.85 and standard deviation of 30.00 ("IRT Pattern Scoring," 2000, p.25). When comparing the state

Table 8

The Impact of ELA plus DRI on NMS Student Achievement on
the NYSIELAA and DRP test

When students ...		students were more likely to ...
who were not classified (non-IEP) took the NYSIELAA,	→	outperform students with IEPs.
with IEPs took the NYSIELAA,	→	score higher with ELA and DRI, than with ELA alone.
who were males took the NYSIELAA,	→	score higher with ELA and DRI, than with ELA alone.
who were females took the NYSIELAA,	→	score lower with ELA and DRI, than with ELA alone.
took the DRP after having ELA plus 1 year of DRI,	→	score higher, overall, than with ELA alone.
took the DRP after having ELA plus 2 years of DRI,	→	score higher, overall, than with ELA alone and with ELA plus 1 year of DRI.

standard score mean to the standard score mean of students at Newfield Middle School (NMS), the NMS students performed higher than the state average.

From the standard scores, "students are classified into performance levels (1-4) based on their scale scores" (New York State Education Department, 2002). This model "assumes that improvement in the proportion of students achieving criterion scores on the examinations is not linear from year to year" (New York State Education Department, n.d.). With this in mind, and examining the percentage of students scoring at levels three and four (students meeting the Standards) as noted in Table 9, the number of NMS students progressing toward meeting the New York State Learning Standards increased overall. With the exception of the 2002 testing, more students achieved levels three and four. The cut standard scores to achieve this level were established, based on a standard setting-study (New York State Education Department, 2001) at 662, 701, and 739 (New York State Education Department, 2002, p. 8). Students at NMS are moving toward meeting the State Standards (1999-2003). With this in mind, how can the DRP scores show a significant increase with the

Table 9

Percentage of NMS Eighth Grade Students at Levels 3 and 4
(Proficient) on the NYSIELAA, 1999-2003*

Years	N	At levels 3/4		Percentage
		n	%	Change
1999	82	38	46	
2000	81	41	50	
1999-2000	163			+ 4
2001	54	33	61	
1999-2001	217			+15**
2002	67	29	43	
1999-2002	284			-3
2003	68	37	54	
1999-2003	352***			+8

Note. * = Upon examination of proficiency categories (1, 2, 3, 4), an overall gain is evident; ** = Possible result of the introduction of smaller ELA classes; *** = In study, N = 345. This difference of seven students is due to missing information pertaining to student scores. The data represented in this table include students who may have been absent, may have refused to take the test, or may have had missing demographic information as presented in the District School Report Card.

implementation of DRI, yet no significant gains were found in NYSIELAA mean standard scores as a result of DRI?

The state assessment is designed to measure levels of critical application in comprehension of text beyond basic competencies. For students to be critical thinkers as they engage in text, one conclusion is that they must master phonemic awareness, decoding, and fluency skills.

Performance on the DRP demonstrates that students, after DRI, have made gains in their ability to comprehend what they have read. Literacy basics have increased following DRI in middle school. It will be imperative, in further study, to continue to track NYSIELAA performance in relation to participation in ELA and DRI. As the 2004 school year concludes, data will be available to measure achievement for an additional treatment group on the NYSIELAA, a group that will have had 3 years of ELA instruction and 3 years of DRI, as middle school students, Grades 6, 7, and 8. In addition, consideration should be given to the time of year the NYSIELAA was given. Since its inception in 1999, the test administration date has moved from May to June, and ultimately to its current date in January. This time change has shortened the time that students have spent in both ELA and DRI prior to taking the

exam. The DRP, on the other hand, has always been administered in May of each school year.

As indicated in Table 1, the percentage of students receiving free or reduced-price lunch steadily increased from 33% (1999) to 49% (2003). Many years ago, Coleman (1967) found that family background and a student's socioeconomic status have a significant impact on student achievement. For this particular study, confidentiality issues prohibited the researcher from analyzing student achievement on the NYSIELAA and DRP as related to individual categorization in free or reduced-price lunch status. That this status increased for the period of study, however, is noted as a possible contributor to performance results. In addition, the findings were consistent with research that regular education students achieve at higher levels than do their classified counterparts. However, with the ELA plus DRI model introduced as the treatment, special education students made significant mean gains in NYSIELAA scores over time. It is important to note that who students who start low on tests will have farther to go, and therefore more room to gain. The extra time in reading afforded by DRI might help the low performing students to a greater degree than other groups.

The New York State Education Department has moved to disaggregate district data on the *School Report Card* to emphasize specific groups that are underachieving, including students with IEPs. The introduction of DRI has measurable merit as an application at NMS to increase classified students' achievement on the NYSIELAA through the addition of DRI classes.

There is controversy over the effect of homogeneous grouping on student achievement and emotional well-being. Regardless, the model adopted at NMS assessed the "value added" reading performance of students who had a DRI class in a homogeneous, flexible group in addition to a standard ELA class. Special education students showed significant mean gains in this setting. Flexibility in grouping practices allowed students to progress at individual rates. All groups of NMS students showed significant gains in DRP scores in such groupings. Chall and Curtis (1992) noted that research on students with reading disabilities has focused on technique rather than developmental levels (p. 267). The DRI program at NMS combined technique, such as phonological awareness (Lundberg, Frost, & Petersen, 1988), decoding, fluency (Reitsma, 1988), and comprehension (Baumann, 1984), with so-called ability grouping to

maximize achievement. Special-needs students made statistically significant gains in this setting.

Attention should be given to changes in mean NYSIELAA scores for males. Although no statistically significant increase was found, males showed an absolute increase in NYSIELAA performance with ELA instruction plus 1 additional year of DRI. This finding requires caution in interpretation because males did not show as much gain after 2 years of DRI as they did after 1 year of the treatment in addition to ELA. A significant interaction effect was found between gender and instruction. Because of the few factors used for study, post-hoc analyses were not executed to determine the extent of the interaction.

Conclusions

Because there were significant increases in mean DRP scores but not in mean NYSIELAA scores after introduction of DRI in addition to regular ELA classes, the use of the tests at NMS must be considered. Perhaps the DRI classes and processes are aligned with DRP measures. Because the DRP has established reliability and validity, one anticipates that the results based on DRP outcomes are accurate. Consideration now turns to the degree that the DRI classes, as well as the ELA classes, are aligned with the NYSIELAA and ultimately with the New York State

Learning Standards for ELA. The District should conduct curriculum analyses for this content area, performing a mapping process, as well as gap analyses. Are the pedagogical practices and student skills in concert with the achievement measures? "Another source of confounding is the link between test instruments and treatment. Not too surprisingly, students perform better on tests that directly measure what they are taught" (Calfee & Piontkowski, In Pearson, 2002, p. 67; Walker & Schaffarzick, 1974). In addition, with the DRI intervention, will students who have accelerated to a grade-appropriate instructional level, perform higher on the NYSIEELAA because they now have the necessary skills to think at a critical level?

A second option is to consider the whole-school model of literacy. Struggling readers benefit most from DRI. A few students, however, are master readers. Might they benefit from mathematics intervention? The NMS staff may want to consider re-defining its literacy "block" to include math literacy within the same structure of the DRI model.

Recommendations for Practice

In addition to continued DRI intervention at NMS, further implications for educational practice are

impending. Course scheduling influences when students in Grades 6 through 8 may receive DRI. Do students participate in DRI classes in the fall or the spring? Are there significant differences in gains related to time of year? The NYSIELAA has been administered at varying points in the school year, as imposed by the State Education Department. What effects has administration timing had on performance? Have the validity and reliability of the test accounted for this adjustment in administration?

At a minimum, the Newfield Central School District administration and Board of Education should consider the impact that additional DRI time may have on student achievement, particularly for students with special needs. There may also be considerations with regard to the use of reading specialists at NMS. As noted, in Table 2 (p. 71), implications of class-size should be considered and researched locally. The ELA average class-size was reduced from 21.9 to 14.8 and DRI groups averaged 7.3 students. As shown by effect size, female performance decreased in relation to DRI. Is it possible that girls are bored in a DRI class? Are there social, emotional, or developmental issues surrounding this phenomenon to which school officials must also give credence?

Teachers at NMS can use the results of this study as performance data to evaluate their lesson plans and curricula, and align/re-align instruction as appropriate. The data identified students who are at-risk readers, as well as at-risk of not meeting the New York State Learning Standards. Students receiving Academic Intervention Services (AIS) can benefit from teachers' use of these data to develop appropriate lessons and developmentally-appropriate instructional methodologies. Engagement in professional development activities may enhance DRI and ELA practices, as well as reading across content areas. The Board of Education can use these data in preparing a strategic plan to support continued student achievement, and based on the plan, reallocate some funds to maintain gains and to continue to assist students in further gains.

Lastly, testing itself should be considered. Not only concern with test reliability and validity, but the concept of using only one measure. Multiple measures of assessment must be considered. Cunningham and Allington proclaimed, "Standardized scores give us information about groups of children, but give us only limited information about the reading levels of individual children" (2003, p.164). "Attempts to infer children's learning strategies rather than their abilities calls into question another assumption

of current group tests of reading" (Johnston, in Pearson, 2002, p. 171). Vigilance in this realm is paramount. These notions, however, are directly tied to policy decisions.

Recommendations for Policy

Both Commissioner's Regulations in New York State and the No Child Left Behind (NCLB) Act carry requirements for teacher certification, reading instruction, Title I funding, course requirements, and many unfunded or partially funded mandates. Requirements may drive district decision making in this arena, in spite of education research and best practices established over time.

With NCLB is the competitive funding allocated to states to generate scientifically based Reading First programs for students in kindergarten through Grade 3. While these grade configurations are aligned with the class-size research, the funding protocol is not. As noted by the Alliance for Excellent Education (2003), "policymakers have substantially increased the federal government's investment in Pre-K-16 education. However, this investment is unbalanced and incomplete. Congressional appropriations provide little funding for middle and high schools" (p. 1). Hock and Deshler (2003) noted, "the effects of the significant work done on early

reading . . . will not affect millions of adolescents who are no longer in primary grades" (p. 56).

According to the National Research Council (1998), "approximately 10% of all school-aged children were classified as learning disabled," primarily because they could not read (Lyon, 1998). The percentage of classified students is higher in 2003. With the reauthorization of the Individuals with Disabilities Education Act (IDEA) Amendments of 1997, educators are now held accountable for the performance of students with disabilities as well as their non-disabled peers. Take struggling readers, who may have received Title I services, and compound the difficulty with a disability, the results of this study rise to a heightened level. The data for special education students with regard to DRI in addition to ELA instruction suggest that DRI has inherent benefits for this group.

McGill-Franzen (In Kamil, Mosenthal, Pearson, & Barr, 2000) pointed out that special education is another underfunded mandate by the federal government. Originally, students with IEPs were outside the regular accountability measures for schools. Under NCLB, however, schools are accountable for required annual yearly progress (AYP) targets regardless of the student population. Federal funding was to accompany the implications for schools of

the IDEA legislation. The legislation has come to fruition; the dollars for these excess costs have not. Educators are held accountable for the same growth for all student groups without any consideration of their baseline performance. Are students being punished for the "inappropriation" of funds by the federal government, and for bureaucratic decisions outside of local educator control? New federal policy does not reflect the current state of public education. Some have publicly stated that NCLB is designed to privatize and lead to the demise of public education.

When children and their families are at stake, policy should not be considered lightly. As Williams (In Ravitch, 2000) pointed out, "some policy makers have decided not to leave all the decisions to teachers - or to school boards . . . laws have been passed about how reading must be taught" (p. 167). In light of the push for accountability and the punishments, all education work must be carefully evaluated. Although the federal government is requiring the use of scientific-based research (SBR), even the work of the National Reading Panel (NRP) has been called into question (e.g. Ehri & Stahl, 2001; Garan, 2001; Krashen, 2001; Stone, 2001; Strauss, 2001). Respected researchers reject much of the single-focus research reported by the

NRP authors and cautioned against the implications of the NRP publication. Reading may be "the most important ingredient" (Williams, in Ravitch, 2000, p. 167) in a child's education. Policy must reflect this.

Recommendations for Future Research

As noted in Table 2, class-size reduction was imposed over the period of study. Further research to build on the body of evidence on benefits of small classes for Grades k-3 may find class-size significance for adolescents. Average class-size for DRI for 2002 and 2003 was 7.3. There may not only be a class-size effect for ELA instruction, but for DRI as well. The combined gain for these two courses of study may prove significant with further study.

Teachers as leaders may have an impact on the reading achievement gains of students. "A consistent finding . . . is that student choice of activities yields negative results . . . teachers who most successfully promote achievement gain take the role of a strong leader" (Pearson, 2002, p. 746). What role do individual teachers play in reading instruction?

There has also been concern over the methods of grouping students for instruction (Goodlad, 1984; Kulik & Kulik, 1982; Slavin, 1987). The relation of DRI to

NYSIELAA gains for classified students, as well as gains in DRP scores, warrants further study with regard to homogeneous versus heterogeneous grouping techniques, along with student flexibility in group membership. This, however, must be considered in tandem with "the activities and knowledge that students experience as part of instruction that bear directly on what they learn and how they feel about learning" (Barr & Dreeben, In Pearson, 2002, p. 895).

A study of instructional practices should be considered. "A basic part of the research process is to conduct multiple studies of the same phenomena using different conceptualizations of the problem, samples of participants, measures of success . . ." (Shanahan & Neumann, 1997, p. 206). Irvin (2004) suggested a broad range of SBR, including qualitative measures. An array of methodologies can provide rich descriptions of the behaviors that are occurring within both the ELA and DRI classrooms. Guthrie and Hall provided a detailed approach in ethnographic techniques to reading research (In Pearson, 2002, pp. 91-110) thereby gaining the truest sense of ecological validity (Bronfenbrenner, 1976).

Finally, of great importance, is actual time spent on reading. While this study examined additional time for

DRI, there was neither evaluation of time on task, nor actual teaching strategies or content. Added research may provide useful information on improving adolescent literacy. "Rice (1893) was the first to investigate the relationship between instructional time and learner outcomes" (Venezky, In Pearson, 2002, p. 20). Since that time, much study has occurred to contribute to the body of knowledge. Taking into consideration the framework of this current study regarding groupings, time for DRI, students with special needs, and other variables in need of consideration, the actual time for instructional purposes may contribute greatly.

Kamil (In Pearson, 2002) noted the variables to be studied in reading research. While the current study was limited to gender, special education, and DRI time, expanded research to consider instructional variables, such as materials, teacher beliefs, and teacher effectiveness, reader/learner factors, such as language development, cognitive processes, and self-concept, and environmental variables, such as classroom design and teacher-student interactions (p.51) is warranted. In addition, there has been much recent interest in brain research. It is evident that there is much room for study in relation to adolescent readers and their interaction with print.

Final Notes

Adolescent literacy is a recent phenomenon in the literature. The International Reading Association first published a position paper on the topic in 1999. Much of the recent literature regarding adolescents, however, has been on content-area reading (Greenwood, 2004; Leonard, 2004), literature circles (Latendresse, 2004), and book clubs (George, 2004). The present study adds to the body of research on reading for adolescents and on time (Berliner, 1987; Cypher & Willower, 1984; Heathington, 1979; Midgley, 1993; Mizelle, 1997) for DRI. Students benefited from homogeneous, flexible groupings that focused on increasing independent reading levels, ultimately contributing to comprehension of any media. Research on adolescent literacy has merit for the future.

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Appendix A



June 24, 2003

Robert Ike
2976 Route 96A
Interlaken, New York 14867

Dear Mr Ike:

Thank you for submitting your proposal entitled "The Impact of Direct Reading Instruction for Middle School Students at Newfield Middle School, Newfield, New York" to the Seton Hall University Institutional Review Board. Your study has been categorized as exempt.

Thank you for your cooperation.

Sincerely,

Giuliana Mazzoni, Ph.D.
Associate Professor
Director, Institutional Review Board

C.c.: Charles Achilles, Ph.D.

Office of Institutional Review Board
Presidents Hall
Tel: 973.275.2974 • Fax: 973.275.2978
400 South Orange Avenue • South Orange, New Jersey 07079-2641

OFFICE OF INSTITUTIONAL REVIEW BOARD

Appendix B

Newfield Central School District

247 Main Street
Newfield, NY
14867

(607) 564-9955

March 10, 2003

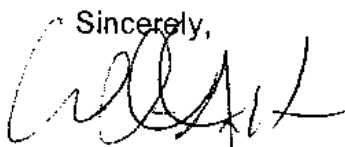
Charles Achilles, Ed.D.
Seton Hall University
College of Education and Human Services
400 South Orange Avenue
South Orange, New Jersey 07079

Dear Dr. Achilles:

The Newfield Central School District wholeheartedly supports the research of Mr. Robert Ike, a student in the Executive Doctorate in Educational Administration program at Seton Hall University. As Chief School Officer, Mr. Ike has permission to use the District database for the New York State Intermediate English Language Arts Assessment and the Degrees of Reading Power test. Complete anonymity will be maintained in the use of this database.

Thank you.

Sincerely,



William J. Hurley
Superintendent



Appendix C

*Summary of Cell Means, Standard Deviations(SD), Gain Scores
(B-A; C-A), and Related Effect Sizes*.*

Independent Variables: Gender (Male, Female); Special
Education (Non-IEP Students, IEP students); DRI Time
(ELA only-A (1999-2001); ELA + 1 year DRI-B (2002);
ELA + 2 years DRI-C (2002-2003))

Gender	Spec Ed	DRI	Mean	SD	N	ES
Male	No IEP	A	700.81	24.89	103	
		B	703.71	24.80	34	
		C	699.96	19.19	26	
		B-A	+2.9			.11
		C-A	-.85			.03
	Has IEP	A	641.75	14.93	4	
		B	683.43	15.64	7	
		C	681.00	3.36	4	
		B-A	+41.68			2.79
		C-A	+39.25			2.62
	All	A	698.60	27.00	107	
		B	700.24	24.57	41	
		C	697.43	19.02	30	
		B-A	+1.64			.06
		C-A	-1.17			.04

Appendix C (continued).

Female	No IEP	A	711.18	25.69	100	
		B	698.81	21.65	27	
		C	711.67	30.89	30	
		B-A	-12.37			.48
		C-A	+ .49			.01
	Has IEP	A	668.00	22.51	3	
		B			0	
		C	674.14	19.81	7	
		B-A	NA			NA
		C-A	+6.14			.27
All		A	709.92	26.53	103	
		B	698.81	21.65	27	
		C	704.57	32.50	37	
		B-A	-11.11			.41
		C-A	-5.35			.20
Total	No IEP	A	705.92	25.76	203	
		B	701.54	23.40	61	
		C	706.23	26.56	56	
		B-A	-4.38			.17
		C-A	+.31			.01

Appendix C (continued).

Has IEP	A	653.00	21.84	7	
	B	683.43	15.64	7	
	C	676.64	15.84	11	
	B-A	+30.43			1.39
	C-A	+23.64			1.08
All	A	704.15	27.30	210	
	B	699.68	23.30	68	
	C	701.37	27.35	67	
	B-A	-4.47			.16
	C-A	-2.78			.10

Note. * Effect size calculation, see page 60.

ES = Effect Size; SD = Standard Deviation